

SCHEDULE 15
SERVICE SCHEDULE
TERMS APPLICABLE TO JAPAN USERS ONLY
(Updated September 19, 2022)

The following terms will form part of the Terms and will apply to you if you are a resident of Japan who is using FTX Earn or has enabled Peer-to-Peer Crypto Borrowing and Lending ("**P2P Crypto Loans**") provided by FTX Trading.

FTX Trading provides and operates a peer-to-peer crypto asset borrowing and lending platform for matching Borrowers and Lenders of P2P Crypto Loans to users of FTX Japan Corporation (Cryptocurrency Exchange Business Kanto Finance Bureau Director No. 00002 and Type 1 Financial Instruments Business registrant) ("**FTX Japan**"). P2P Crypto Loans are available both via the Site as well as via the FTX Earn program on the Mobile Application.

By enabling and agreeing to borrow or lend P2P Crypto Loans (either via the Site or the FTX Earn program), you hereby acknowledge and agree that:

- you are an authorized and verified user of FTX Japan;
- P2P Crypto Loans are not provided by FTX Japan and all P2P Crypto Loan services are provided solely by FTX Trading;
- you have read and understood, and agree to the Terms of Service and FTX's Privacy Policy, each as amended from time to time;
- you authorize FTX Japan to share any information collected from you with FTX Trading as may be required under anti-money laundering laws or otherwise in compliance with applicable financial regulatory and other laws;
- if you're participating in the FTX Earn program, you are lending your crypto assets to third party borrowers in return for rewards which are variable for each crypto asset and changes hourly;
- you hereby authorize FTX Trading to instruct FTX Japan to borrow from and lend assets to Lenders and Borrowers, respectively, and to take all such actions as may be required to complete such P2P Crypto Loans on your behalf;
- you will only participate in P2P Crypto Loans for your own account and not for the account of others;
- you will not use P2P Crypto Loans for any illegal activities, unlawful conduct or other restricted purposes as set forth in the Terms;
- FTX Trading does not act as borrower or lender of any P2P Crypto Loans; and

Only FTX Japan users are eligible to participate in P2P Crypto Loans, either as a borrower or as a lender.

Lending

To become a P2P Crypto Loan lender ("**Lender**"), you must have first deposited assets with FTX Japan into your FTX Japan account ("**Account**"). As a Lender, you can select "LEND" on the P2P Crypto Loans website or participate in the FTX Earn program on the Mobile Application, and specify the amount, minimum rate and type of crypto asset that you wish to lend out in order to become eligible to lend out your crypto assets. Your lending offer will then be submitted to FTX Trading's P2P Crypto Loan order book and automatically matched with borrowers, if any.

The amount of funds borrowed, funding rates and estimated funding rates are based solely on historical data, are not guaranteed and are subject to frequent change on an hourly basis. There is no assurance that you will be able to lend out your crypto assets, that there will be any borrowers available to you, that there will be any demand for crypto borrowing, or that any of the displayed lending rates are accurate. FTX Trading reserves the right, in its sole discretion, to determine the ordering and matching of Lenders and Borrowers. You further agree to pay any platform charges or fees that FTX Trading may provide from time to time.

You are not required to lend out any assets at any time. To stop lending out your assets, (a) go to the P2P Crypto Loans website and click on "STOP LENDING" at any time, or (b) if you are participating in the FTX Earn program on the Mobile Application, click on "Disable" in "Profile" → "Earn rewards on assets".

All loans of crypto assets via the P2P Crypto Loans website are non-recourse loans. You agree that your sole recourse in the event of default of a Borrower's P2P Crypto Loan is the seizure and/or liquidation of assets held in the Borrower's Account. You agree, and shall cause all of your agents, representatives and affiliates to agree, not to seek recourse or recompense against any funds, assets or properties owned by a Borrower outside of the Borrower's Account at any time.

LENDING CRYPTO ASSETS VIA P2P CRYPTO LOANS IS VERY HIGH RISK AND ARE NOT INSURED IN ANY WAY BY FTX TRADING, ANY GOVERNMENTAL AGENCY, OR ANY THIRD PARTY. AS A LENDER, YOU MAY SUSTAIN A TOTAL LOSS OF YOUR LENT CRYPTO ASSETS IF THE BORROWER DEFAULTS ON A P2P CRYPTO LOAN AND SEIZURE AND/OR LIQUIDATION OF THE BORROWER'S ACCOUNT FAIL TO REPAY SUFFICIENT CRYPTO ASSETS TO COVER THE BORROWER'S DEBT TO YOU OR OTHER LENDERS.

Borrowing

To become a P2P Crypto Loan borrower ("**Borrower**"), you must have first deposited crypto assets with FTX Japan into your Account as collateral. As a borrower, you can select "Enable Peer to Peer borrowing" on the P2P Crypto Loans website to enable borrowing of crypto assets from other FTX Japan users. The amount of crypto assets that you are entitled to borrow from time to time is determined based on a number of factors, including the amount of crypto assets made available by lenders for borrowing, the amount of crypto assets available in your Account as collateral, crypto asset market liquidity and volatility conditions, national, regional and global economic conditions, legal and regulatory requirements, as well as other factors that FTX Trading may consider from time to time.

All borrowed crypto assets using the P2P Crypto Loans website are **non-recourse** with respect to any assets held by the Borrower in the Borrower's Account. In other words, in the event of default, neither FTX Trading, any Lenders, nor any of their affiliates, agents or representatives may seek recourse or recompense against any funds, assets or properties owned by a Borrower outside of the Borrower's Account. In the event of default of a Borrower's P2P Crypto Loan, the sole recourse of any Lender is the seizure and/or liquidation of assets held in the Borrower's Account.

You agree to pay (a) any interest charges that may accrue on your P2P Crypto Loan, which you may view on the P2P Crypto Loans website, and (b) any platform charges or fees that FTX Trading may provide from time to time, which will be viewable on the P2P Crypto Loans website as well.

You are not required to borrow any crypto assets at any time. By enabling P2P Crypto Loan borrowing, you agree to do so at your own risk. You acknowledge and agree that any crypto assets borrowed from a Lender via a P2P Crypto Loan may be used for any purposes on the FTX Japan trading platform, including for trading, collateral and withdrawals, provided however, that you agree that FTX Trading may instruct FTX Japan to limit withdrawals of crypto assets borrowed under P2P Crypto Loans in the event that there is insufficient assets in your Account.

BORROWING P2P CRYPTO LOANS ON FTX TRADING IS VERY HIGH RISK. AS A BORROWER, YOU MAY SUSTAIN A TOTAL LOSS OF CRYPTO ASSETS IN YOUR ACCOUNT. THE HIGH VOLATILITY AND SUBSTANTIAL RISK OF ILLIQUIDITY IN THE MARKETS MEANS THAT YOU MAY NOT BE ABLE TO LIQUIDATE YOUR ACCOUNT ASSETS IN TIME, OR AT ALL. IF THE VALUE OF THE ASSETS HELD IN YOUR ACCOUNT FALLS BELOW THE MINIMUM BALANCE REQUIREMENT OR FTX TRADING DETERMINES IN ITS SOLE DISCRETION THAT YOUR ACCOUNT APPEARS TO BE IN DANGER OF DEFAULTING ON A P2P CRYPTO LOAN, FTX TRADING OR THE APPLICABLE LENDER(S) MAY, DIRECTLY OR INDIRECTLY, SEIZE AND LIQUIDATE ANY OR ALL OF YOUR POSITIONS AND ASSETS IN YOUR ACCOUNT TO REPAY YOUR BORROWED CRYPTO ASSETS.

別紙 15

サービスに関する別紙

日本のユーザーにのみ適用される規約

以下の規約は、本約款等の一部を構成し、FTX Earn を利用しているか又は FTX トレーディングが提供する P2P 貸借暗号資産取引（以下「**P2P 貸借暗号資産取引**」といいます。）をご利用可能な日本国に居住するお客様に適用されます。

FTX トレーディングは、P2P 貸借暗号資産の貸出人及び借受人のマッチングのための P2P 貸借暗号資産取引プラットフォームを FTX Japan 株式会社（暗号資産交換事業者（登録番号関東財務局長第 00002 号）、第一種金融商品取引業登録業者）（以下「**当社**」といいます。）のユーザー向けに提供し、運営します。P2P 貸借暗号資産取引は当社ウェブサイトを通じて、また、モバイルアプリの FTX Earn プログラムを通じて利用可能です。

（当社ウェブサイト又は FTX Earn プログラムのいずれかを通じて）P2P 貸借暗号資産取引における借受け又は貸出しを可能とし及び合意することで、お客様は以下の事項を了承し、同意します。

- お客様は当社により認定・認証されたユーザーです。
- P2P 貸借暗号資産取引は当社が提供するのではなく、P2P 貸借暗号資産取引に係るサービスは全て FTX トレーディングが単独で提供しています。
- お客様は、ご利用規約及び FTX のプライバシーポリシー（それぞれ随時なされる修正を含みます。）を精読及び理解し、並びにこれらに同意しました。
- お客様は、当社がアンチマネーロンダリング法上必要な場合に又は適用ある金融規制その他の法律に従ってお客様から収集する情報を FTX トレーディングに共有することを認めます。
- FTX Earn プログラムに参加されているお客様の場合、お客様の暗号資産は、各暗号資産に応じて変更する可能性があり、1 時間単位で変動する報酬と引き換えに第三者借受人に貸し出されます。
- お客様は、FTX トレーディングが当社に対して本貸出人及び本借受人それぞれとの間で資産の借受け及び貸出しを行い、お客様に代わり P2P 貸借暗号資産取引を完了するために必要な全ての措置を講じるよう指図することを認めます。
- お客様は、ご本人の勘定でのみ P2P 貸借暗号資産取引に参加し、他人の勘定で参加しません。
- お客様は、P2P 貸借暗号資産を違法行為、不法行為、その他本約款等に定める制限された目的のために利用しません。
- FTX トレーディングが P2P 貸借暗号資産の借受人又は貸出人となることはありません。

当社のユーザーのみが、借受人又は貸出人のいずれかとして P2P 貸借暗号資産取引に参加する資格を有します。

貸出し

お客様が P2P 貸借暗号資産取引の貸出人（以下「**本貸出人**」といいます。）となるには、まず資産をお客様が当社に開設した口座（以下「**お客様口座**」といいます。）に預託する必要があります。お客様は本貸出人として、P2P 貸借暗号資産取引ウェブサイトで「貸出し」を選択するか又はモバイルアプリの FTX Earn プログラムに参加し、貸出しを希望する暗号資産の数量、最低貸借料率及び暗号資産の種類を指定することで、お客様の暗号資産を貸し出す資格を得ます。お客様の貸出しオファーは FTX トレーディングの P2P 貸借暗号資産取引注文板に提出され、自動的に借受人（もしあれば）とのマッチングが行われます。

借受け額、資金調達率及び予想資金調達率は実績データのみに基づいており、保証されておらず、1 時間ごとに頻繁に変更されます。お客様の暗号資産を貸し出すことができるか、お客様が貸し出すことのできる借受人がいるか、暗号資産の借受けの需要があるか、又は表示された貸借料率が正確であるかは、保証されません。FTX トレーディングは、単独の裁量において本貸出人及び本借受人の注文及びマッチングを決定する権利を留保します。お客様はさらに FTX トレーディングが随時定めるプラットフォーム手数料を支払うことに同意します。

お客様はいかなる時も資産を貸し出す必要はありません。お客様の資産の貸出しをストップするには、(a) 何時でも P2P 貸借暗号資産取引ウェブサイトにアクセスして「STOP LENDING」をクリックするか、又は(b) モバイルアプリ上で FTX Earn プログラムに参加しているお客様の場合、「プロフィール」の「無効にする」をクリックし、「資産で利益を得られます」をクリックします。

P2P 貸借暗号資産取引ウェブサイトを利用した貸し付けた暗号資産は全て**責任財産限定型消費貸借**です。お客様は、本借受人の P2P 貸借暗号資産取引で債務不履行となった場合にお客様が遡及できるのは本借受人の口座において保有されている資産の差押え及び／又は決済のみであることに同意します。お客様は何時でも本借受人の口座外に本借受人が所有する資金、資産若しくは財産からの償還又はこれらによる補償を求めないことに同意し、お客様の全ての代理人、代表者及び関連会社に同意させます。

P2P 貸借暗号資産取引を通じた暗号資産の貸出しは、極めて高いリスクを伴い、FTX トレーディング、政府機関又は第三者によって何ら保証されていません。本借受人が P2P 貸借暗号資産取引で債務不履行となり、かつ本借受人の口座の差押え及び／又は決済ではお客様又は他の本貸出人に対する本借受人の負債の補填に十分な暗号資産の返済ができない場合、お客様は本貸出人として貸し出した暗号資産を全て失う可能性があります。

借受け

P2P 貸借暗号資産の借受人（以下「**本借受人**」といいます。）になるには、まず暗号資産を担保としてお客様口座において当社に預託する必要があります。お客様は借受人として P2P 貸借暗号資産取引ウェブサイトで「P2P 借受けを有効とする」を選択することで当社の他のユーザーから暗号資産を借り受けることができます。お客様が借り受けることのできる暗号資産の数量は、貸出人が借受けに提供する暗号資産の数量、お客様口座で担保として利用可能な暗号資産の数量、暗号資産市場の流動性及びボラティリティの状況、国、地域及び世界の経済状況、法律上及び規制上の要件並びに FTX トレーディングが随時検討するその他の要因を含む多くの要因に基づいて決定されます。

P2P 貸借暗号資産取引ウェブサイトを利用して借り受けられた暗号資産全てについて、**責任財産**は本借受人の口座において本借受人が保有する資産に**限定されます**。言い換えると、債務不履行の場合、FTX トレーディング、本貸出人又はその関連会社、代理人若しくは代表者のいずれも本借受人の口座外に本借受人が所有する資金、資産若しくは財産からの償還又はこれらによる補償を求めることはできません。本借受人が P2P 貸借暗号資産取引で債務不履行となった場合、本貸出人が遡及できるのは本借受人の口座において保有される資産の差押及び／又は決済のみです。

お客様は、(a) P2P 貸借暗号資産に付される利息（P2P 貸借暗号資産取引ウェブサイトでご覧いただけます。）、及び (b) FTX トレーディングが随時定めるプラットフォーム手数料（これも P2P 貸借暗号資産取引ウェブサイトでご覧可能です。）を支払うことに同意します。

お客様はいかなる時も暗号資産を借り受ける必要はありません。P2P 貸借暗号資産の借受けを可能とすることで、お客様はご自身がリスクを負担して借受けを行うことに同意します。お客様は、P2P 貸借暗号資産取引を通じて本貸出人から借り受けた暗号資産が当社の取引プラットフォーム上で取引、担保及び引出を含むあらゆる目的で利用される可能性があることを了承し、同意します。但し、お客様は、お客様口座に十分な資産がない場合は FTX トレーディングが P2P 貸借暗号資産取引に基づき借り受けられた暗号資産の引出を制限するよう当社に指図する可能性があることに同意します。

FTX トレーディングでの P2P 貸借暗号資産の借受けは極めて高いリスクを伴います。お客様は借受人として、お客様口座内の全ての暗号資産を失う可能性があります。マーケットにおける高いボラティリティ及び重大な非流動性リスクの存在は、お客様がお客様口座内の資産を期限内に決済できないか又は決済が全くできなくなる可能性があることを意味します。お客様口座において保有される資産の価額が最低必要残高を下回るか又は FTX トレーディングが単独の裁量でお客様口座の P2P 貸借暗号資産について債務不履行となるおそれがあると判断する場合、FTX トレーディング又は関連する本貸出人は、お客様が借り受けた暗号資産の返済のためにお客様口座内のポジション及び資産の全部又は一部を直接又は間接的に差し押え、決済する可能性があります。

SCHEDULE 16
SERVICE SCHEDULE
TERMS APPLICABLE TO UK USERS ONLY
(Updated September 29, 2022)

Products and services related to a specified investment for the purposes of the UK Financial Services and Markets Act 2000 (Regulated Activities) Order 2001 may not be promoted or offered to residents of the United Kingdom, unless they fall within the certain exemptions from the UK financial promotions regime under article 12 (Overseas Recipients), article 19 (Investment Professionals), article 48 (High Net Worth Individuals), article 49 (High Net Worth Companies, Unincorporated Associations), article 50 (Sophisticated Investors) and article 50A (Self-certified Sophisticated Investors) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, or they have otherwise be lawfully communicated in accordance with the Financial Services and Markets Act 2000 and the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005.

EXHIBIT B

FTX DIGITAL MARKETS LIMITED

SAFEGUARDING OF ASSETS & DIGITAL TOKEN MANAGEMENT POLICY

Document History

Date	Version	Description
August 2021	v1.0	N/A.

Confidentiality

All information contained in this document shall be kept in confidence. No part of this document is to be altered or copied without the written agreement of FTX Digital Markets Limited (**FDM**). None of this information shall be divulged to persons other than to authorised employees and contractors of FDM on a need to know basis. The release of this document to other parties must be authorised by FDM, and only once an NDA has been signed with that party.

Review & Approvals

This document requires review and approval as it may be released to third parties as part of FDM's planning and decision management process. The following representatives of FDM have approved this document:

Name	Title	Date Approved
Ryan Salame	CEO	16/08/2021

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INTRODUCTION

This policy outlines FDM's approach to the safeguarding of assets. In developing this policy, FDM has considered the operational, technical, and organisational aspects of its approach to the safeguarding of assets. Furthermore, FDM has considered the best practice guidance issued for the virtual asset sector.

FDM fully acknowledges that its products and services are at risk from criminals and others seeking to steal and misappropriate assets belonging to FDM and its customers. FDM is committed to take appropriate measures to prevent potential loss of assets.

OBJECTIVE

This policy's objective are to:

- Emphasise our stringent commitment to safeguarding assets belonging to both FDM and its customers;
- Summarise the main procedures, systems, and controls FDM has implemented to appropriately segregate its own assets and its customers' assets;
- Summarise the main procedures FDM has implemented to reconcile its own assets and its customers' assets; and
- Explain how FDM will manage the digital tokens under its custody.

SCOPE

This policy, subject to any local or jurisdictional legal or regulatory requirements, applies to:

- FDM, its employees, consultants, contractors, temporary employees, or any person having access to FDM or customer assets;
- External third parties, through contract commitments; and
- All information systems owned by and/or managed by FDM including all computers, technical infrastructure, network devices, applications, and databases.

This policy defines the manual and electronic protection requirements for FDM and its customers' assets.

Where FDM authorises arrangements whereby a third party stores or transmits FDM or its customers' assets on its behalf, it is FDM's responsibility for the oversight of the third party's procedures and practices and ensuring that they meet the requirements of this policy and any applicable regulations.

POLICY COMPLIANCE

Compliance with this policy is mandatory for all users that access (or have access to) FDM's or its customers' assets. Any internal or external business supporting processes or procedures that cannot comply with this policy or supporting policies and standards, must have an exception statement approved by the Compliance Officer (CO).

Users involved in the management of third-party suppliers and service providers are responsible for ensuring that all third-party contracts and agreements impose sufficient obligations on suppliers and service providers to support FDM's cybersecurity objectives as set by this policy.

Deliberate or persistent attempts to violate or actual violations of this policy will lead to disciplinary measures.

FDM is a company incorporated and registered in The Bahamas, as is therefore bound to comply with certain rules and regulations covering customer data.

APPORTIONMENT OF RESPONSIBILITIES

FDM clearly defines the roles and responsibilities of all individuals with oversight of the company's safeguarding of assets strategy.

FDM'S RESPONSIBILITIES

FDM is ultimately responsible for the safeguarding of its customers' assets.

FDM's key roles and responsibilities in relation to safeguarding of assets are outlined below:

- Appropriately account for the difference between its own assets and its customers' assets;
- All third-party providers will be aware that customer assets do not represent assets of FDM;
- All third-party providers are aware that customer assets are held in trust;
- FDM will have systems of control in place that are proportionate to its size, the assets in custody and the risks involved in its business, including the management of digital tokens in its custody;
- Developing and implementing procedures appropriate to the nature, size, and complexity of FDM's business and the risks it may reasonably face; and
- Ensure that the policies, controls, and procedures are regularly reviewed and updated according to the latest technology available, and that these are approved by senior management.

SENIOR MANAGEMENT RESPONSIBILITIES

The CEO is the primary person responsible for the secure storage and implementation of certain financial and treasury procedures in place to protect FDM and its customers' assets.

To do so, the CEO will appoint a person(s) with sufficient seniority, skills, and experience to oversee the relevant procedures below:

- **Chief Technology Officer or equivalent:**
 - combating attacks on and attempts to steal funds and damage the infrastructure put in place to secure storage;
 - ensure that cryptography algorithms and hardware meet relevant security standards;
 - developing and releasing software ensuring security including, but not limited to, cryptography algorithms and hardware; and
 - performing regular security testing (pen-testing).
- **Chief Operating Officer or equivalent;**
 - ensuring FDM and customer assets segregation for accounting, operational and storage purposes;
 - maintaining regular reconciliation of FDM and customer assets; and
 - auditing record keeping system.

- **Chief Financial Officer or equivalent; and**
 - managing FDM assets; and
 - protecting customer assets from third-party creditor claims.
- **Compliance Officer and/or MLRO.**
 - ensuring FDM, its employees, consultants, contractors, temporary employees, or any person having access to FDM, or customer assets complies with this policy.

SYSTEMS OF CONTROL

FDM will ensure that it has in place systems of control to manage customer assets that are proportionate to its size, the assets in custody and the risks involved in its business.

ACCOUNTING STANDARDS

As part of its business operations, FDM will maintain reliable accounting records or cause reliable accounting records to be kept in relation to all sums of money received and expended, inclusive of all customer trading activity, trading revenue, and other transactions relating to FDM operations, and FDM will document the reason for such receipt or expenditure.

FDM will ensure that:

- accounting records are maintained in relation to all sums of money received and expended and indicate the reason for the receipt and expenditure accounting records establish the authorisation of transactions relating to expenditure;
- accounting records are reliable, in that the records;
 - explain all transactions by providing a record of the transaction along with an adequate summary of its details;
 - enable the financial position of the company to be determining with reasonable accuracy;
 - enable the preparation of financial statements; and include documentation underlying the transaction.
 - reconcile to cash positions held within banks or to blockchain balances
- there is a written statement included in the accounting records that the records are prepared to the directors' or officers' best knowledge, information and belief;
- the accounting records show the assets and liabilities of the company;
- in the case of Segregated Accounts Company, the accounting records must be maintained in relation to each segregated account as well as the general account of the company;

IT AND SOFTWARE

Systems of control relating to IT and software will be kept up to date and will meet the latest industry protocols and standards. The systems of control that will be implemented and kept up to date will include, but it not restricted to:

- Multi factor authentication;
- Pattern analysis on internet traffic to servers;
- IP and device checking;
- Looking for brute force attacks on account passwords; and
- Multi-level security checks of customers that request access to their accounts.

SAFEGUARDING AND SEGREGATION

FDM has a responsibility to ensure that customer assets are appropriately safeguarded and segregated from its own funds. This includes customer assets that may be held by third party service providers. FDM will ensure that:

- Customer assets (both fiat and virtual assets) are segregated from its own assets;
- Customer assets (both fiat and virtual assets) will be clearly designated and easily identifiable;
- All third-party service providers are aware that customer funds do not represent property of FDM and are therefore protected from third-party creditors; and
- All third-party providers are aware that customer assets are held in trust.

Regarding customer fiat assets, FDM will maintain customer accounts with a regulated credit, e-money or payment institution that is acceptable to the Securities Commission of The Bahamas (SCB). Customer accounts will be designated as such, and the monies contained therein will be appropriately ring-fenced and protected from claims against FDM.

Customer monies will be appropriately ring-fenced to protect from:

- The unlikely event FDM becomes insolvent;
- The use of customer monies being used to benefit others; and
- FDM using customer monies to finance its own operations.

Written notice will be provided to the relevant regulated credit, e-money, or payment institution to clarify that the assets contained are held by us on trust for our customers and they are not entitled to combine the account any other account, or to exercise any right of set-off or counterclaim against the money in those accounts, in respect of any debt owed by us.

All customer accounts will be under the dual signatory of two directors or of one director, together with a senior member of the management team.

RECONCILIATION

FDM will take all reasonable steps to ensure that any value is applied to the correct accounts in good time.

VIRTUAL ASSET RECONCILIATION

FDM must take all reasonable steps to ensure that any value is applied to the correct wallets in good time.

FDM has implemented an automated process which identifies differences between expected customer balances and virtual assets on the relevant blockchains. These amounts are then investigated and reconciled.

When reconciling virtual asset movements, FDM will ensure that any internally calculated balances are reconciled to the expected balance on the underlying blockchain in question. Any differences will be investigated. Any unidentified differences leading to a lower amount of virtual asset balances on the underlying distributed ledger when compared to the internal records, may be covered by the firm until these are investigated and cleared.

The company will look to apply an automated process due to the frequent movement in customer funds.

FIAT ASSET RECONCILIATION

As a minimum, FDM will reconcile its customer fiat assets and its own assets on a monthly basis. Customer fund reconciliation requires FDM to carry out checks of its internal records and the amount of customer money that the company holds for each customer with its internal records and what the company should hold in customer bank accounts or has placed in customer transaction accounts. If there are resource constraints that prevent the company from performing customer reconciliation, senior management needs to be notified on that business day and a reconciliation must be performed as soon as possible.

In carrying out a customer funds reconciliation, FDM must use the values contained in its internal records and ledgers, rather than the values contained in the records it has obtained from banks and other third parties with whom it has placed customer monies. FDM uses the normal approach to segregate customer money, which means rather than the funds being first received into the company's corporate account and then segregated, customer money is deposited directly into the company's designated customer bank accounts.

A customer asset reconciliation should:

- Help FDM to have adequate protection for its customers' assets when the company is responsible for them; and
- Help minimise the risk of the loss or reduction of customer money, or of rights in connection with customer money, because of misuse of customer money, fraud, poor administration, inadequate record-keeping, or negligence.

If a discrepancy is found between FDM's total customer funds and its total customer fund requirement identified by reconciliations, FDM must determine the reason for the discrepancy and ensure that:

- Any shortfall identified after considering assets in transit, timing differences, or any other feasible reasoning not noted previously must be communicated to SMT as soon as possible and paid into a customer assets bank account;
- Any excess and revenues are clearly recorded and transferred out without delay;
- If any discrepancy is identified in the customer money reconciliation, FDM must investigate the reason for the discrepancy and take all reasonable steps to resolve it, without undue delay, unless the discrepancy arises solely because of timing differences between the accounting systems of the party providing the statement of confirmation and that of the company.

FDM must also inform the Board in writing, without delay if:

- Its internal records and accounts of customer assets are materially out of date, inaccurate or invalid, so that the company is no longer able to accurately reconcile customer assets; and
- If it will be unable to, or materially fails to, pay any shortfall into a customer bank account so that the company is unable to meet customer money requirements after carrying out reconciliation.

DIGITAL TOKEN MANAGEMENT

FDM uses a best practice hot wallet and cold wallet standard solution for the custody of virtual assets. The firm aims to maintain sufficient virtual assets in the hot wallet to cover two days of trading activities, which means only a small proportion of assets held are exposed to the internet, the remaining assets are stored offline. The 2-day trading figure is continuously monitored and if the hot wallet exceeds this amount, it will overflow into the cold wallet. If the figure drops below the 2-day trading figure, the hot wallet will be topped up from the cold wallet.

The firm utilises a multi-sig signature process (2/3) to move funds between the hot and cold wallets.

PRIVATE KEY MANAGEMENT

The key protocols FDM will implement for the management of private keys will include -

- utilising a multi-signature process (2/3) for hot and cold wallet storage and transfers;
- ensuring keys/seeds are created by FDM and are generated using a random process;
- implementing multi-sig arrangements to ensure there is no single point of failure or reliance on a single party to initiate transactions;
- ensure redundant keys are assigned;
- where possible, ensure multi-sig keys are distributed in different geographical locations and different organisational entities;
- where possible, storing back-up keys in different geographical locations and different organisational entities;
- transactions will be signed in a fully offline environment and only broadcast to the network when required;
- having strong physical measures in place to protect keys held offline;
- requiring signatories to undergo background checks, to ensure they are fit and proper; and
- implementing a key compromise protocol.

RECORD KEEPING

FDM will securely store all customer asset records during the business relationship with a customer for a minimum of 5 years, following termination of a business relationship. The records will be kept in a manner and format that is accessible, retrievable and provides a clear audit trail to enable our auditors to sign off on our financial statements and our systems and controls.

EXHIBIT C



REGISTER OF DIGITAL ASSET BUSINESSES

Registration information provided as at: 31 March 2022

Digital Asset Business:

FTX DIGITAL MARKETS LTD.

Address	Building 27 Veridian Corporate Centre West Bay Street P.O. Box N 7525 Nassau, The Bahamas
Phone	(242) 603-1336
Website	www.ftx.com
Principals	Samuel Bankman-Fried
Chairman	Samuel Bankman-Fried
Secretary	Daniel Friedberg
Directors/Members	Ryan Salame, Samuel Bankman-Fried
Chief Executive Officer	Ryan Salame
Compliance Officer	Jessica Murray
Money Laundering Reporting Officer	Jessica Murray
SCB Registration Details Pursuant to Section 6 of the Digital Assets and Registered Exchanges Act, 2021	<ul style="list-style-type: none"> – Provision of an exchange between digital assets and fiat currency; and, – Provision of an exchange between one or more forms of digital assets.
Registration Type	Digital Asset Business
Registration Conditions	None
Sanctions	None
Other Registrations/ Licenses held outside of The Bahamas	(i) License: Australian Financial Services License Entity Name: IFS Markets Party Limited Jurisdiction : Australia (ii) License: Digital Ledger Technology Provider Entity Name: Zubr Exchange Limited Jurisdiction: Gibraltar

EXHIBIT D



Testimony of Sam Bankman-Fried Co-Founder and CEO of FTX

“Digital Assets and the Future of Finance: Understanding the Challenges and Benefits of
Financial Innovation in the United States”
Hearing Before the U.S. House of Representatives
Committee on Financial Services

December 8, 2021
10:00am ET

Introduction

Chair Waters, Ranking Member McHenry, members of the committee and distinguished guests, thank you for inviting me to testify before this committee today. It is an honor and a privilege to be before you to share some information and insights into the digital-asset industry as this committee, this chamber and the Congress as a whole deliberate on a variety of key topics stemming from this exciting space. Along with my colleagues and teammates, I am pleased to provide you with as much information as you need in order to ensure a fully informed and robust debate around whether and how this committee should address some of these key topics.

Background on FTX

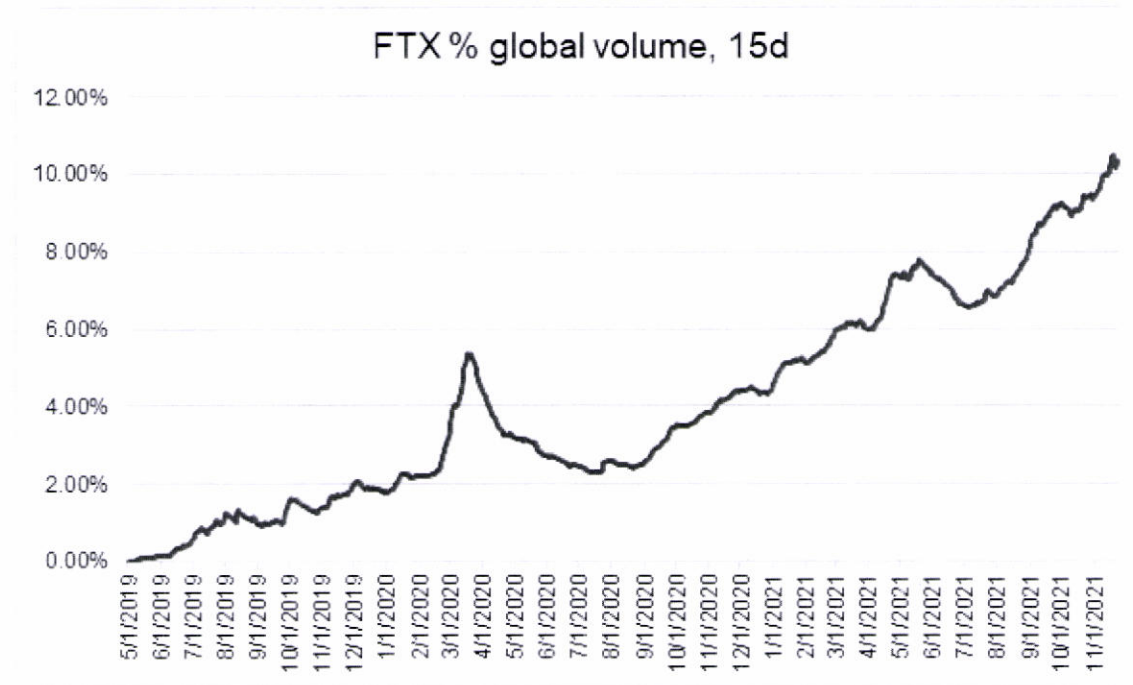
The FTX group of companies (FTX Group or FTX) was founded in 2019 and began as an exchange or marketplace for the trading of crypto assets. In the U.S., the company is a federally regulated exchange operator with licenses from the Department of Treasury (as a money services business) and the U.S. Commodity Futures Trading Commission (CFTC). FTX was established by three Americans, Samuel Bankman-Fried, Gary (Zixiao) Wang and Nishad Singh, with operations commencing in May 2019. It was established in order to build a digital asset trading platform and exchange for the purpose of a better user experience, customer protection, and innovative products. FTX built the FTX.com exchange to develop a platform robust enough for professional trading firms and intuitive enough for first-time users.

The core founding team had unique experience to develop an exchange given their experiences in scaling large engineering systems at Google and Facebook, combined with trading experience on Wall Street. This brought to the effort an understanding of how to build the best platform from scratch, as well as what that platform should look like, unencumbered by legacy technology or market structure. FTX has aimed to combine the best practices of the traditional financial system with the best from the digital-asset ecosystem.

Early Success. The FTX.com exchange has been extremely successful since its launch. This year around \$15 billion of assets are traded daily on the platform, which now represents approximately 10% of global volume for crypto trading. The FTX team has grown to over 200 globally, the majority of whom are responsible for



compliance and customer support. The FTX Group's primary international headquarters and base of operations is in the Bahamas, where the company is registered as a digital asset business under The Bahamas' Digital Assets and Registered Exchanges Act, 2020 (DARE).



In addition to offering competitive products, the FTX platforms have built a reputation as being highly performant and reliable exchanges. Even during bouts of high volatility in the overall digital asset markets, FTX.com exchange has experienced limited downtime and technological performance issues when compared to its main competitors. We believe this dual-track focus on customers and reliability are key reasons why FTX has also experienced the fastest relative volume growth of all exchanges since January 2020.

The core product consists of the FTX.com web site that provides access to a market place for crypto assets and tokens. Platform users also can access the market through a mobile device with an FTX app. The core product also consists of a vertically integrated, singular technology stack that supports a matching engine for orders, an application programming interface or API, a custody service and wallet for users, and a settlement, clearing and risk-engine system. In a typical transaction, the only players involved are the buyers, sellers, and the exchange.

The FTX Group has operations in and licenses from dozens of jurisdictions around the world, including here in the U.S. At the time of this writing the FTX platforms have millions of registered users, and the FTX US platform has around one million users. For FTX.com, roughly 45 percent of users and customers come from Asia, 25 percent from the European Union (EU), with the remainder coming from other regions but for the U.S. (also excluding persons from sanctioned countries). Nearly all users of FTX.us are from the U.S.



U.S. Operations. FTX services U.S. customers through the FTX US platform, which also includes FTX US Derivatives. FTX US is a separate corporate entity and company with a similar governance and capital structure to the overall corporate family, and also has its own web site, FTX.us, and mobile app. As with FTX.com, the core product is an exchange for a spot market for digital assets that, like other crypto-platforms in the U.S., is enabled through money-transmitter licenses. FTX US is headquartered in Chicago with a few other satellite offices in other US cities.

FTX US Derivatives was formed through the acquisition and re-branding of LedgerX, and is now a business unit that offers derivatives products such as futures and options contracts on digital commodities to both U.S. and non-U.S. persons. FTX US Derivatives has four licenses from the U.S. Commodity Futures Trading Commission (CFTC): a Designated Contract Market (DCM) license, a Swap Execution Facility (SEF) license, a Designated Clearing Organization (DCO) license, and a Commodity Pool Operator (CPO) license. Prior to its acquisition, this business was the first crypto-native platform issued a DCO license by the CFTC in 2017, which was a milestone for the agency and the crypto industry. That license was later amended in 2019 to permit the clearing of futures contracts.

Commitment to a Diverse Workforce. We are proud of our workforce at FTX and believe that one of our key strengths is a culture of mutual respect and cooperation. This type of culture is borne from the diversity of our team, which necessitates a spirit of empathy, understanding and humility. These traits in our workforce are good for business and are much of the reason we have been successful at understanding our customers and their needs, and executing on products that meet their needs. FTX has employees from all over the world with diverse ethnic backgrounds, and 60 percent of women in our workforce are in senior management positions.

Commitment to Mitigating Climate Impacts. FTX is very serious about minimizing our impact on the global environment where we live and work, and as a company we have taken several important steps to ensure this. Here, I would like to share several key points to explain why FTX's environmental impact is de minimis, but nonetheless explain the additional steps the company has taken to reduce even further this impact. *First*, FTX has no factories or physical products and therefore does not leverage global shipment networks, a substantial source of energy consumption. FTX has a small workforce with a small physical-office footprint, renting only a few small offices spread out around the world, and operates online. FTX corporate operations, therefore, do not have direct impacts on climate change at a globally relevant scale.

Second, digital asset deposits to and withdrawals from FTX platforms in fact require energy consumption as public blockchains facilitate and record those transactions, but on FTX over 80 percent of deposits and withdrawals use low-cost, carbon-efficient Proof of Stake (PoS) blockchains. These PoS networks contrast with Proof of Work (PoW) blockchains such as the Bitcoin blockchain, which consume significant amounts of energy to maintain the network. By using PoS blockchains for the vast majority of FTX deposits and withdrawals, FTX massively reduces the overall climate impact of blockchains. To facilitate the remaining approximately 20 percent of deposits and withdrawals, energy consumption is relatively small, but FTX subsidizes the blockchain network fees to share in paying the costs of that energy consumption. Separate from deposits and withdrawals, on-exchange transactions and transfers (the overwhelming majority of our user activity) do not require public blockchain activity and require only the amount of energy needed to run a web-based trading venue.



Third, FTX also has endeavored to take ownership of our portion of the environmental costs of mining associated with public blockchains and has purchased carbon offsets to neutralize those costs. Estimating the costs of energy consumption and carbon output associated with blockchain mining is difficult because mining is decentralized, and discerning how much energy is coming from which source is elusive. Nonetheless, FTX estimates that it costs \$1 million to take ownership of those costs, and has purchased a total of 100,000 tons of carbon offsets through two providers for \$1,016,000. Additionally, FTX through its affiliated arm, FTX Climate, created a comprehensive program to focus on the most impactful solutions to climate change possible. In addition to achieving carbon neutrality, our initial program funds research that we believe can have an outsized impact, as well as supports other special projects and carbon-removal solutions. FTX plans to spend at least \$1 million per year through FTX Climate. Those interested in learning more about these initiatives can find more information at <https://www.ftx-climate.com>.

Fourth, FTX believes energy consumption by PoW blockchains and its impacts should be assessed within the appropriate context, which we believe should include consideration of their benefits, an understanding of their differences with PoS networks and how each type of network is being leveraged and growing, as well as a comparison to other energy-consuming activities or even industries. For example, BTC has delivered benefits to many as measured by access to financial products, asset transmission, and wealth creation, which should be weighed against the network's energy costs.¹

Additionally, while PoW networks attract attention for their energy consumption, transactional activity on PoS networks is growing substantially due to their superior ability to process a greater number of transactions in a shorter period of time at a lower cost. FTX believes these PoS networks will become increasingly important over time, which will continue to minimize the overall climate impact of blockchains over time. And finally, the energy consumption by PoW blockchains is relatively small when compared to other industries that the BTC network in particular is often compared to.² Of assets whose futures trade on CFTC-regulated venues, BTC actually ranks fairly low in terms of environmental impact, relative to traditional, physically mined commodities, oil, livestock, and other environmentally impactful assets.

Commitment to Giving Back. FTX is committed to improving the lives not just of our customers through superior products, but also the lives of those in the broader global community. Toward this end, FTX created the FTX Foundation, which was founded with the goal of donating to the world's most effective charities. FTX has pledged to donate one percent of net revenue from fees to the foundation. FTX, its affiliates, and its employees so far have donated over \$10 million to help save lives, prevent suffering, and ensure a brighter future.

¹ See "Everything We Want Costs Energy, Including Bitcoin," by Benjamin Powers, *CoinDesk*, Apr. 22, 2021; <https://www.coindesk.com/tech/2021/04/22/everything-we-want-costs-energy-including-bitcoin/>; see also "The Bitcoin Mining Network: Trends, Average Creation Costs, Electricity Consumption & Sources," *CoinShares Research*, June 2019 Update, <https://coinshares.com/assets/resources/Research/bitcoin-mining-network-june-2019-fidelity-foreword.pdf>

² See "On Bitcoin's Energy Consumption: A Quantitative Approach to a Subjective Question," *Galaxy Digital Mining*, May 2021, Rachel Rybaczky, Drew Armstrong, Amanda Fabiano. <https://docs.google.com/view/adwmdeeyfvqwecj2>.



Discussion

In this discussion I will address the following topics: (1) an overview of the products offered by FTX and their role in the digital asset economy; (2) stablecoins and how to address risks associated with these instruments; and (3) the current regulatory landscape and principles to guide policy makers toward good policy outcomes. Throughout this discussion I distinguish our non-U.S. and U.S. businesses by referring to FTX International and FTX US, respectively, where relevant.

There are several key themes in my testimony as it addresses the various topics. The first is that *FTX empowers the individual investor and consumer because we offer products that are easily accessible and inexpensive, so investors and consumers can make simplified choices to achieve their economic goals*. Easy access to financial products all in one place, in many cases on a mobile phone, without multiple gatekeepers assessing rents and posing risks to the investor along the way, is how the digital-asset ecosystem is impacting the real everyday lives of those involved, and helping them achieve economic security along the journey. A supportive and accommodating policy environment for this easy access to financial tools (balanced with other policy goals) will only empower the individual investor even further.

The second theme is that *FTX has designed and offered a platform with a market structure that is risk reducing*. To be sure, there are irresponsible actors in the digital-asset industry, and those actors attract the headlines, but FTX is not one of them and in fact has built a resilient, risk-reducing platform *as a competitive advantage*. As a result, the FTX model should be able to fit into any regulatory framework with the highest of risk standards around the world, so long as policy makers are willing to be flexible and allow a risk-reducing, 24/7, direct-to-investor market structure, and dispense with any *requirements* for a legacy, intermediated market structure that has not always best served the individual investor.

The final theme is that *FTX already is subjected to U.S. federal regulatory supervision of the highest standards*, including that of the U.S. Commodity Futures Trading Commission (CFTC) and the U.S. Department of Treasury, as well as stringent supervision by other global and state regulators. As discussed below, FTX embraces and would prefer to operate under one, federal, unified regulatory regime. In any case, FTX views its official-sector supervisors as stakeholders and partners with whom a consistent, active dialogue is necessary, and this viewpoint applies equally to the U.S. Congress. We at FTX are always available and eager to share our insights into the digital-asset industry and how it can continue to improve people's everyday lives.

The future, of course, is difficult to predict, but FTX believes that digital assets and blockchain technology more generally are very likely to endure and continue to present exciting opportunities for consumers, investors and entrepreneurs. FTX believes the U.S. should continue to lead in presenting those opportunities here in this country. FTX fully supports a regulatory framework for the trading of digital assets that protects investors and delivers on the hallmarks of orderly markets. To maintain U.S. leadership, policy makers will need to continue leveraging the best features of existing policy, but also accommodate the best features of the digital-asset industry, which we believe are empowering to the consumer and risk-reducing to markets.



1. FTX Products and Their Role in the Digital Asset Economy

Core Product: Digital Asset Exchange. As briefly explained above, FTX's core products are its digital asset exchanges, FTX.com and FTX.us. On both platforms, users can spot trade digital assets with other users for cash, stablecoins and other digital assets. On the spot exchange, users can set a variety of different order types on a central limit order book (CLOB). Users are able to offer orders at a specific price (limit order) or trade on the book at the best price shown. A robust matching engine sits in between these orders to connect buyers and sellers and display the best available prices.

Futures and volatility contracts related to digital assets also are listed on the platforms as well, with or without leverage. On FTX.com, leverage is limited to 20x; as of now it is not available to users of FTX.us (although there is facilitation of other forms of credit to Eligible Contract Participants -- see below). The platforms have listed quarterly-settled (as well as perpetual futures contracts only on FTX.com) that are cash settled. Additionally, MOVE volatility contracts are offered on FTX.com and are similar to futures except, instead of expiring to the price of a digital asset, they expire to the USD amount that the price of BTC has moved in a day, week or quarter. FTX.com also lists Bitcoin (BTC) options for trading. Finally, FTX US Derivatives offers to U.S. users both BTC and Ethereum (ETH) options, futures and swaps.

To cover initial and maintenance margins, derivatives and leveraged products users post collateral in the form of cash, stablecoins or other digital assets held on their account. The exchanges also have integrated risk-management and back-office systems to perform clearing and settlement of trades, which includes updating records of ownership of the digital asset or digital asset futures and options contracts traded (clearing), and transferring value between users' accounts (settlement), using either delivery versus payment or delivery versus delivery.

Market events last last week showed how effective the risk-reducing attributes of the FTX core product are. Multiple digital assets declined in value in a short time period late Friday (December 3, 2021), increasing substantially the trading volumes for those assets on the FTX platforms, particularly as the FTX risk engine was activated and began liquidating relevant customer positions on the platforms. The market decline began very late in the day, long after trading hours ended for U.S. markets. But with 24/7 trading hours for digital assets, the FTX risk engine was able to respond immediately to the decline in asset prices, and began liquidating positions immediately before any customer account became net negative. In traditional markets, had a material market event began at the same time, risk-management systems would not have responded until markets re-opened more than two days later, a period of time when customer positions could have declined dramatically before an opportunity to stem losses in the customer account. Importantly, FTX's risk model avoids the systemic warehousing of such risks over a weekend or other period of market closure, and instead addresses at-risk positions and accounts immediately, in real time.

Off-exchange Portal for Arranging and Matching User Orders. FTX.com also offers an off-exchange portal that enables users to connect with other, large users, enabling them to request quotes for spot digital assets and trade directly. This facility forwards requests for quotes to large users, returning prices offered and



enabling users to then place an order. The portal is similar to other facilities found in traditional markets where a central limit order book is not used to match trades.

Margin Lending. FTX platform users can lend their digital assets to those who need them for spot trading. Users (including eligible users on FTX.us) wishing to trade digital assets they do not have may borrow them from users willing to lend them by posting collateral in the form of cash, stablecoins or other digital assets held in their account. The FTX platform maintains a borrow/lending book and matches users wanting to borrow with those willing to lend.

NFT Marketplace. FTX operates a marketplace for users to mint, buy and sell non-fungible tokens (NFTs). NFTs are tokens that are not fungible with any other tokens. They can take a number of forms and, for example, can be redeemed for a physical object, or an experience (such as a movie or phone call), or can be linked to a digital image, etc. FTX's NFT marketplace is conducted through an auction system. Alternatively, users can purchase directly at the prevailing selling price set by the seller. Users can choose to display their NFT collection on the FTX NFT marketplace portal, and/or to continue to buy or sell on the NFT marketplace. An NFT market is available to users of both FTX.com as well as FTX.us.

FTX Pay. FTX Pay is a service offered to merchants to accept payments in digital assets or fiat. Users have the option to top up their FTX accounts with ACH or credit cards, which are then used to make payments to enrolled merchants. For digital asset payments, the relevant user's FTX account would be debited by an amount in the chosen digital asset that is equivalent to the amount that is payable to the merchant. FTX facilitates the payments to the merchant by providing the payment infrastructure.

Staking. FTX.com offers the ability for users to "stake" certain supported digital assets on the platform. By staking such digital assets, users can earn staking rewards; in addition, for some tokens, users can receive and unlock certain benefits on FTX, such as reduced trading fees, withdrawal fees, as well as other rewards. Generally, users can "unstake" their digital assets at any time, subject to an unstaking or unbonding period. For certain digital assets, FTX may allow the user to unstake the digital asset immediately by paying an unstaking fee.

Types of Digital Assets on FTX Platforms. FTX has developed listing standards and a framework for determining which digital assets to list on the platforms. Part of that framework entails evaluating the assets to assess factors such as security, compliance risk, legal risk, technological risk and other factors. On FTX.com, which again is unavailable to U.S. users, FTX has listed approximately 100 stablecoins and other digital assets on its spot exchange. Digital assets include tokens such as Bitcoin (BTC), Ether (ETH), , Uniswap Protocol Token (UNI), Chainlink token (LINK), Solana (SOL), and Aave (AAVE). Non-pegged stablecoins include tokens such as USDT (USD Tether) and DAI.

On FTX.us, the company has taken what we believe to be a conservative approach to listing digital assets for trading. Consequently, there are far fewer tokens listed for trading on FTX.us due to much stricter listing standards for this platform. Care has been taken to avoid listing assets with features viewed to be similar to securities in the U.S. The assets and tokens listed more closely resemble BTC and ETH, two tokens expressly addressed by the CFTC to be commodities subject to its jurisdiction.



In sum, a quick review of these products will lead to the conclusion that the products available now in the digital-asset economy and on the FTX platforms are very similar to ones found in the traditional finance space. This reflects a maturing of the industry as more and more sophisticated investors enter the space and demand products and solutions familiar to them from traditional finance.

Again, one of the defining features of these products that is different from traditional finance is that the investors can get access to all of them on one platform, and without going through multiple intermediaries for access. In addition, all market data is made public and free -- all users are given full knowledge of the orderbook and trades. Easy access to financial products and solutions on one, easy-to-use platform is a powerful feature that empowers investors, consumers and entrepreneurs. By simplifying access to these tools, users of the products can focus more on the core of their everyday financial goals and needs -- ultimately this is what FTX believes will promote financial inclusion and economic security for more people.

2. The Benefits of Stablecoins and Addressing Their Risks

FTX believes that stablecoins are one of the most important payment innovations to come from the digital-asset industry, and users on our platforms rely heavily on their use for payment and settlement of transactions. FTX acknowledges the important work of the *President's Working Group on Financial Markets* and we read with interest the recently released "Report on Stablecoins." FTX has shared its recommendations on how best to ensure the safety and soundness of stablecoins, which I include here as an exhibit to this written testimony and can also be found at <https://www.ftxpolicy.com/stablecoins>.

In addition to our recommendations for stablecoin supervision, FTX believes two other key points are worth making to this committee for your consideration. *First*, this committee should understand that FTX believes that without banking-type federal supervision of stablecoin issuers today, FTX allows their use on our platforms and indeed leverages them for our own corporate money transfer because we believe they are *risk reducing*. Indeed, FTX has opted to use stablecoin transmission for very large money transfers, including for our merger-and-acquisitions activity, rather than the traditional banking system's payment rails.

While it might seem counterintuitive to some that using stablecoins would be viewed as less risky than the heavily regulated payment rails of the banking system, the reason is because stablecoin transfers have nearly instantaneous settlement, and settlement can be easily confirmed by both counterparties by viewing the deposit into a wallet on a public blockchain. Contrast this with the process for a typical wire transfer, a process that includes multiple intermediaries standing between the transferor and transferee, each of which poses counterparty risks; takes days to complete and settle; and is costly compared to a stablecoin transfer. Other payment systems such as ACH or credit-card networks also suffer from size limitations as well as costliness, even if hidden to users.

FTX, therefore, is skeptical that bank-like supervision for *all* stablecoin issuers is the best solution for consumers. Our concern is that bank-like supervision in every case might inadvertently introduce the risks that stablecoins currently sidestep. We recognize, however, that minimum standards for certain core requirements should be met by both the issuer and the stablecoin it issues. These core requirements include:



- Daily attestations of what assets (cash, bonds, etc.) are backing a stablecoin
- Periodic audits to confirm the asset backing is as claimed
- Haircuts for assets with moderate risk
- An open line for law enforcement to blacklist address and persons associated with financial crimes

These core requirements could be met in a variety of regulatory contexts, including ones other than the federal banking supervisors such as the CFTC or the Securities and Exchange Commission (SEC). Indeed, members of this chamber have introduced legislation with these regulators in mind.

Second, FTX believes that the continued use of stablecoins with appropriate standardized safeguards **will protect** the hegemony of the U.S. dollar as the world's reserve currency, not threaten it. Again, this viewpoint might seem counterintuitive, but today the most widely used stablecoins are pegged to the U.S. dollar, and so ultimately those stablecoins settle to U.S. dollars themselves. This system promotes the continued reliance worldwide on the U.S. dollar, rather than threatens it. In fact, FTX's concern is that an overly onerous approach to supervising stablecoins is what will pose a risk to the U.S. dollar's reserve-currency status, because stablecoin issuers might be compelled to shift to other jurisdictions and focus their efforts on stablecoins that are pegged to fiat currencies other than the U.S. dollar.

To be sure, consumers will benefit most from having some level of competition among payment-service providers, which U.S. policymakers have allowed or promoted before. FTX believes that it should be instructive to policymakers that new innovations, including stablecoins in the payments space, often materialize outside of a defined regulatory perimeter, which typically means that service providers within that same perimeter are not offering what a market is demanding, usually for a variety of reasons. To allow innovation to continue and healthy competition to persist, however, policymakers should take care to strike the appropriate balance and not insist on moving all innovators to within the same regulatory perimeter. FTX commends this committee for holding this hearing to educate itself first on the benefits of new innovations like stablecoins before moving to act on the recommendations of the PWG's report.

3. U.S. Market Regulation of Crypto Platforms and Challenges to Operations

This committee in the past has asked thoughtful questions about the best way to provide supervisory oversight of crypto platforms that offer trading, and some members of this committee indeed have introduced legislation addressing this topic. Other members have questioned whether federal legislation is necessary at all. We appreciate all of these questions and efforts.

Last week FTX released *FTX's Key Principles for Market Regulation of Crypto-Trading Platforms*, which can be found on the FTX.com web site at <https://ftxpolicy.com> and is included here as an exhibit to my testimony. This document was designed and released to assist with this committee's and other



policy makers' deliberations about how best to protect investors and serve the public through sensible market supervision of crypto platforms.

FTX's *Key Principles* document goes into some amount of detail but here I would like to focus on a few highlights for this committee to consider. *First*, in considering a framework for supervising spot and derivatives crypto trading markets, policymakers should take a principles-based approach and leverage the existing policy goals that apply to traditional capital and derivatives markets. These goals essentially are universal to all markets and include: ensuring customer and investor protection, promoting market integrity, preventing financial crimes, and ensuring overall system safety and soundness. FTX believes that any new policies related to crypto platforms also should be in service to these goals, which also necessarily means that much of the principles reflected in the Commodity Exchange Act (CEA), Securities Act of 1933, and Securities Exchange Act of 1934 are relevant to our industry. FTX believes it makes sense to leverage these goals as well as the experience and expertise of the CFTC and the SEC as appropriate.

Second, FTX and other crypto platforms have brought important innovations to trading, and a sound policy framework should preserve these innovations where possible. This is because these innovations help to minimize risk, promote capital efficiency and protect investors, all of which better serve the public. As referenced above in this testimony, some of the key innovations include: (1) automated risk-management systems that ensure customer accounts trading multiple different assets do not go net negative across customer positions; (2) 24/7 trading hours, which also reduces risk by allowing markets and their systems to manage risks without interrupting and lengthy time gaps between market hours; (3) permissioning a non-intermediated market structure that gives all investors the same equal access to the market and helps minimize conflicts of interest; and (4) access to market data for all platform users free of charge, which aligns the platform operator's interest with the investor's.

Third, a successful policy framework would allow crypto platforms to offer both spot and derivatives trading on crypto assets under one unified system, with one rule book and one technology platform to manage risks related to all trading activity in customer accounts. In jurisdictions with mature markets such as the U.S., regulatory frameworks were developed in response to fragmented markets for securities, commodities, and derivatives on those assets. FTX has demonstrated that bringing together markets for both the assets and derivatives for those assets delivers key benefits to market participants. Those benefits come from having one rule book that applies to all trading, having one collateral and risk-margin program, and a single technology stack for the front end (the user interface), to the back end (settling and risk managing positions). Public policy should permit this one-rule-book model due to its risk-reducing and customer-protection attributes.

To accomplish this, and where there is more than one market regulator such as in the U.S., regulators should work together cooperatively and use their authorities where applicable to accommodate this model for crypto assets. Our *Key Principles* document proposes a scheme where a crypto-platform operator could opt into a program of joint supervision by the CFTC and SEC, with one of the two market regulators serving as the primary regulator, and the other as the secondary regulator. This type of paradigm is familiar to market regulators globally and requires joint responsibilities and cooperation between regulators. A hallmark of this paradigm would be having one primary regulator, which is likely necessary to ensure the accommodation of one rule book, one matching engine and risk engine supported by one technology stack. It is these features that again are risk reducing.



Under this paradigm, which FTX believes largely could be created under existing CFTC and SEC authorities, there might remain some other policy gaps, which include the proper treatment and disclosures for certain types of crypto assets that are not precisely securities, or whose function and purpose can change over time, but in any case would fit the definition of a commodity under the CEA.³ While some of these tokens are securities, the classification of others is unclear under existing definitions, and therefore it may be appropriate to establish more definitional refinements as well as a different disclosure framework for certain assets. In any case, *FTX's Key Principles* again envisions all tokens and derivatives referencing them trading on the same platform, under the same rule book, and with a unified system to manage risks related to all trading activity in customer accounts.

Fourth, an appropriate policy framework for market regulation of crypto assets should remain market-structure neutral and expressly allow non-intermediated markets. While FTX believes the U.S. market regulators have authorities to accommodate this type of market structure today, it nonetheless is not the market structure generally contemplated by the CFTC and SEC regimes. FTX is quite familiar with the CFTC regime as the owner and operator of a registered futures market and clearinghouse, and believes the CFTC's principles-based approach to supervising those functions makes a lot of sense. This regime requires disclosed and approved policies and procedures created by the platform operator to address key issues such as custody of assets, key features related to the lifecycle of a trade, reporting of market activity to supervisors, provisioning market data to platform users, ensuring adequate financial resources, and protecting against cyber-attacks and financial crimes. Given the nascency of the digital-asset class, this type of approach especially makes sense as it affords flexibility to the CFTC and the platform operator to address new market developments through expeditious changes to the platform's rule book, policies and procedures.

Conclusion

FTX is grateful to this committee for the opportunity to share information about the digital-asset ecosystem and suggest ways the benefits and promise of the industry can continue to be realized, and in a responsible way. FTX believes most or many of the products and tools we offer on our platforms could continue to be offered to U.S. customers within the regulatory paradigms in place today, although in some instances with some careful modifications or productive interpretations by our supervisors. We believe that new policy affecting the digital-asset industry and FTX's business should build on the best features of existing policy, and our suggestions on stablecoin and marketplace supervision are informed with this in mind. By using this approach, FTX believes that the best aspects of traditional finance and digital assets will be combined, and consumers will continue to have access to the empowering tools they seek for economic security, all in one place, and from a singular, risk-reducing platform.

³ FTX observes that the definition of a "commodity" under the CEA is very expansive, and securities also meet that definition.



Exhibit A

Stablecoin Regulation

Note: As global regulators continue to consider whether and how to regulate various components of the digital asset ecosystem, we think it is important to share our perspective on how a practical, responsible, and thoughtful approach to regulation might look. This post is not a comment on the current regulations surrounding stablecoins, a legal interpretation of them, or advice on the suitability of transacting in or owning a given stablecoin. This post is an exploration of what a hypothetical new regulatory framework for stablecoins could look like, engineered towards solving for key regulatory priorities and preserving critical usability features.

Context on stablecoin regulation

As the cryptocurrency industry matures, it's vital that a robust regulatory regime grows alongside it which takes seriously its duty to protect consumers, ensure transparency, and prevent illicit activity, while still allowing for innovation and growth.

Stablecoins play a crucial role in the cryptocurrency ecosystem; the majority of all transactions in crypto are settled via stablecoins, and they are one of the most promising payment tools for the broader financial sector. It is also, as of now, unclear exactly what regulatory regime stablecoins will end up being placed in.

What is a stablecoin?

Let's start with the core question: what exactly is a stablecoin?

There are a wide variety of stablecoin designs that have been utilized in the cryptocurrency ecosystem. For illustrative purposes, in this article we will assume a stablecoin on the US Dollar, although parallel assets do exist on EUR, GBP, and other currencies. We will also imagine that it is 1:1; that is, 1 token represents 1 US Dollar. We will imagine that the token's ticker be STBC.

In this construct, this imaginary stablecoin, STBC, is a blockchain-based asset that can be exchanged for a US Dollar. That would typically be accomplished through the following mechanics and arrangements:

Reserves: typically a stablecoin is backed by one or more USD accounts or other similar assets, generally held at a bank, in an account under the name of the stablecoin sponsor, issuer, or other similar body. The USD value of the assets should be at least the supply of the stablecoin.

Token: a blockchain-based token, STBC, where one token represents \$1 (as supported by the creation / redemption process, described below). These could be issued by a private company, a central bank, or a decentralized protocol.



Creation/Redemption: In order to create 1 STBC token, an eligible user must send \$1 to the reserve account. In return, the protocol mints 1 new STBC token and sends it to the user.

Similarly, an eligible user may send 1 STBC token back to the protocol to redeem it for \$1. The protocol destroys the token and sends \$1 back to the user.

What are the benefits of stablecoins?

We believe that stablecoins are one of the most important innovations of the cryptocurrency industry.

Let's say you want to send \$20 to a friend. What are your options?

- a) You could hope that both you and your friend use the same peer-to-peer transfer app (e.g. Venmo), and then separately each of you figure out how to send money to/from that app.
- b) You could send a \$20 wire transfer to your friend. This would likely take a day and cost \$5+ in fees; and if it's international, it might take a week and cost substantially more in fees.
- c) You could send \$20 via ACH, if both you and your friend use US-based USD bank accounts. Then, the transfer would not fully settle for months, exposing both parties to "chargeback risk".
- d) You could go to an ATM, withdraw \$23 paying a \$3 fee, and hand \$20 to your friend, who would then have to find a way to use the physical dollar bills.
- e) You could send 20 STBC to your friend's cryptocurrency wallet; if you use an efficient blockchain (or both use the same exchange), it will arrive in less than a minute, costing a tiny fraction of a penny in fees.

Option (e), the stablecoin, has a compelling case here as an efficient means of transfer.

Taking our real world use case a step further, consider that a user wants to build a blockchain based application. How should the application's users contribute and withdraw assets?

Here, the users face the same potential options and cost structures as before; once again, stablecoins are the cheapest, safest, fastest way for a user to engage with that application.

What are the risks of stablecoins?

There are three major intertwined risks associated with stablecoins.



Reserve volatility risk

If the stablecoin is backed by something other than US Dollars in a bank account, the asset might depreciate against USD. If, for instance, you were to back a stablecoin with 1,000,000 tokens issued with \$1,000,000 of the SPY (S&P500) ETF, and stock markets decreased 5% in price, you would be left with only \$950,000 backing 1,000,000 stablecoins—meaning that the “stable” token had in fact fallen in value, at least in regards to the reserves it is purported to be redeemable for!

Unlike investment products where customers gain from appreciation in the assets backing the product, there is generally no way for a stablecoin to be worth more than \$1, as customers can always create more for \$1 each. This means that the core philosophy behind the assets backing a stablecoin should be to focus on assets with low volatility which are very similar to USD. US Treasury bonds may be an appropriate asset for a stablecoin’s reserves; if Bitcoin is used, it has to be overcollateralized to an extent that there is very little risk of loss to the stablecoin holders. Backing 100 stablecoins with \$101 of BTC is untenably risky: a mere 2% decrease in bitcoin markets would cause the stablecoin to be under-backed and no longer fully redeemable for \$1. Backing 100 stablecoins with \$400 of BTC, on the other hand, is substantially more defensible, as there is very little risk of a 75% move before the reserves would have a chance to de-risk. Any stablecoin issuer or designer must have a transparent, robust risk model to mitigate the volatility of its reserves, including determining which assets are appropriate for its reserves.

Redemption risk

A related worry is that a user might own 1,000 STBC, go to the issuer to redeem their STBC, and be denied.

This might happen if the reserves had in fact run out of dollars and so there was nothing left to redeem STBC for; this would likely imply the reserves had not been in USD, and had fallen in value.

Alternately, this could happen if the issuer arbitrarily decides to block your redemption, possibly to try to keep more impressive metrics for STBC.

Either way, the lack of ability to redeem (or a lack of transparency related to redemption process and requirements) presents a risk to the user.

Financial crimes

One final risk of stablecoins is that they could be used for financial crimes, or to finance illicit activities.

Any stablecoin issuer or designer must include creation, redemption, and use mechanics that, in harmonization with regulation, address and avoid this use case.



What is a sensible stablecoin regulatory framework?

As noted above, we believe that stablecoins have presented a significant positive use case to the world, and they continue to hold the potential to revolutionize the payments and remittances industry. Stablecoins could in the future revolutionize the payments industry, drastically reducing friction and transaction costs, delivering to many around the world the benefits that come with having access to reliable and usable value transmission. As such, we think it is important to ensure that the ongoing regulatory discussions around the approach to a framework for stablecoins be based on a practical structure that solves equally for usability, reliability, transparency, consumer protection, and the identification and prevention of financial crimes.

We look forward to engaging with regulators on examples of what such a framework might look like. There are many different approaches and we remain open and excited for feedback and engagement from regulators and from other participants in the cryptocurrency industry.

As outlined above, there are real risks associated with stablecoins, and any framework should work to mitigate those.

As such, while we look forward to continuing dialogue on the details, we would be in favor of a proposal for a transparency-based reporting and registration regime for stablecoins.

A proposed framework might look like the following:

- a) All stablecoins issued to US users must be registered on an official list of “regulated stablecoins” under the oversight of one or more US regulatory department(s).
- b) The registration itself would be focused on transparency and reporting, on a notice filing basis, coupled with clear obligations on recordkeeping, reporting, and regular examination. The regulatory departments authorizing the program would have the ability to decertify registered stablecoins.
- c) The registration would involve publishing a daily Reserves List which details what the total net value of the stablecoin’s reserves are, and breaks that down into exact quantities of specific categories (e.g. “100 USD in Bank XYZ; \$95 of short-term US treasury bills; \$50 of Tier-1 commercial paper of US companies; \$30 of Tier-1+ commercial paper of European companies; \$10 of [other suitable assets as permitted by the regulation and by that stablecoin’s registration document]”)
- d) The registration would require that the issuer maintain “sufficient” reserves. This could be defined by a set of haircuts on various types of reserves. E.g., perhaps a 0.10% haircut on USD in an FDIC insured bank account; a 1% haircut on short-term US treasury bills; a 10% haircut on Tier-1+ commercial paper; a 15% discount on Tier-1 commercial paper; a 20% haircut on EUR, GBP, JPY, CHF, CAD, AUD, SGD, HKD, etc.; and a 50% haircut on bitcoin.



e) The registration would require semi-annual audits by an accounting firm to confirm that the reserves are as represented.

f) The registration would require stablecoins to have clear and transparent redemption requirements (e.g. based on Know Your Customer documentation) and a clear customer complaint process if a redemption is denied.

g) To address financial crimes, all registered stablecoins would have to be on a public ledger, and the creation and redemption process must be sufficiently structured in order to ensure that stablecoins associated with illegal activity (as observed via on-chain surveillance and analytics tools, via a suite of standard blockchain surveillance software) cannot be redeemed.

As noted above, this is a basic strawman framework for how the key components of a potential stablecoin registration program might look. Each of these points are designed to preserve the usability of stablecoins while solving for regulatory considerations that need addressing. If designed in the right way, this framework could enhance the ultimate usability of stablecoins. We very much look forward to engaging with policymakers, regulators, and market participants on these concepts.



Exhibit B

FTX's Key Principles for Market Regulation of Crypto-Trading Platforms

In this piece we identify a series of ten principles (and in some instances, proposals) that should guide policy makers and regulators as they build the regulatory framework for spot and derivatives crypto markets. FTX does not propose specific legislation here but rather principles and proposals that could be reflected in policy making, whether in the form of legislation, rulemaking or other regulatory action. Many of these principles are familiar to traditional securities and derivatives markets, but some of the principles reflect market-structure choices made by FTX and other crypto-platform operators that we believe lead to superior outcomes for investors and, indeed, the public. FTX therefore believes public policy should not only permit these choices but promote those that lead to such outcomes. Some of the discussion here focuses on the U.S. marketplace but the principles and proposals are applicable in any jurisdiction globally. FTX appreciates being able to engage in this dialogue with policy makers and regulators, and we are always happy to pursue follow-up discussions with interested parties. See our prior policy blog posts at <https://www.ftxpolicy.com>.

1. Proposing One Primary Market Regulator with One Rule Book for Spot and Derivatives Listings

In the U.S. regulatory ecosystem, spot markets and derivatives markets are subject to different regulatory programs, and this can lead to inefficient and non-optimized market structures. In this post we propose as a solution an alternative regulatory approach that would provide market operators the ability to opt in to a unified regulatory regime for spot and derivatives marketplaces, through a primary regulator model.

As many know, the CFTC is the primary regulator of commodity derivatives marketplaces, while the SEC is the primary regulator of cash securities marketplaces, and the two agencies share oversight responsibility for certain aspects of security derivatives marketplaces.

In parallel, there is a further regulatory split for spot markets (sometimes called “cash markets” in the traditional commodities or securities context), where the applicable regulatory program depends on whether the product being traded is categorized as a security (where the SEC regulates) or a commodity that is not a security (where the states largely regulate, via money transmitter or money services business licensing).

Against that backdrop, and particularly outside of the U.S., we observe that many crypto-native trading-market operators offer for trading both spot transactions on crypto assets as well as derivatives on those assets, under a



unified rule book, one collateral and risk-margin program, and a single technology stack. This model is generally not found in the U.S. given the jurisdiction's historically fragmented approach to markets regulation. Nonetheless, we believe that for traded crypto markets, the key principles for market regulation (customer and investor protection, market integrity, preventing financial crimes, and system safety and soundness) generally apply equally across spot and derivatives markets, and commodities and securities markets. That is, the regulatory label on a given product or market need not change the core goals of regulation, and the same rulesets should generally apply across all markets. For that reason, we strongly support offering a single unified regulatory program for crypto market operators.

Specifically, in jurisdictions where there is a primary derivatives-market regulator separate and distinct from a primary cash-markets regulator (such as in the U.S.), policy makers and regulators should seek to permit qualified crypto markets operators to run a single rule book, risk program, and technology stack, approved and overseen by a primary regulator (perhaps chosen by the marketplace on an opt-in basis and supported thereafter by inter-regulator cooperation and information sharing, with the possibility of the primary regulator shifting if the underlying product mix evolves in a certain way), that governs the listing and trading of both spot cash transactions in crypto assets as well as derivatives on crypto assets.

Much of this can be achieved today under existing statutory authority and with creativity and cooperation by and among market regulators. With some specific issues, however, clarity might be needed from legislation. Under the current U.S. paradigm, for example, we acknowledge that it is unlikely to be absolutely clear at any given moment, absent legislation, whether all of the crypto products listed on such a venue are definitively "within" or "without" the jurisdiction of either of the markets regulators. However, between two possible regulatory solutions under this paradigm - which are (1) that regulators can prohibit the marketplace altogether (via indecision, decree, or a combination of the two), or (2) that regulators can innovate and cooperate to ensure that key regulatory and policy goals are met in a clear and robust way while also permitting the marketplace to operate - we think the second approach offers a compelling option.

Said more explicitly, in jurisdictions where there are two mature market regulators, FTX proposes the permissibility and adoption of a reasonable and rigorous framework that would allow a crypto-markets platform operator to elect one market regulator as its primary regulator for a unified spot and derivatives trading book, subject to adherence to a cooperative framework in which the other market regulator acts a secondary regulator while maintaining appropriate visibility into the platform's operations, but not day-to-day supervisory responsibilities. (Indeed, a similar approach is used today when a market regulator from one jurisdiction "recognizes" the framework of a different jurisdiction where a primary, "home" regulator resides, and then defers to that primary regulator's regulations and rulesets so long as they are sufficiently comparable.)

We propose a functional-based approach, where the regulation and the trading venue rule books that comply with that regulation should be largely modeled after existing market regulations for securities and derivatives markets, on the basis that most jurisdictions will follow this same approach. FTX believes that there is a unique current opportunity for U.S. regulators to take a leadership position in the global crypto markets regulatory discussion, and we believe that modelling a primary regulator model on existing market regulation will foster standardization and harmonization of regulation globally, paving the way for international adoption and reciprocal jurisdictional recognition.



To underscore why we are so focused on these regulatory issues - it is because we believe that getting crypto market regulation appropriately calibrated is critical for the continued development of healthy, transparent, and well functioning global crypto markets, which we believe will deliver knock-on positive effects to the global economy as a whole. And we think our proposed approach, in addition to solving for regulatory uncertainty and fragmentation, would also reduce operational complexity by allowing matching engines for both spot and derivatives transactions to operate on the same platform with the same user interface. This in turn would reduce operational risk to the platform, and promote capital efficiency by allowing collateral in support of both order books to rest on the same platform. In the rest of this piece, we discuss in more detail various additional practical benefits of crypto market place operators being subject to unified primary regulator oversight.

2. Full-Stack Infrastructure Providers and Maintaining Market-Structure Neutrality

Regulation should be market-structure agnostic, provided that the core regulatory issues (identified above as customer and investor protection, market integrity, preventing financial crimes, and system safety and soundness) are addressed. Technology has enabled any capable entity to perform the various functions involved with the pre-trade, execution, and post-trade phases of the lifecycle of an asset trade or transaction in a single regulatory stack - in fact, to split up those functions, from a technology perspective and when building a market from the ground up, would require a forced and artificial deconstruction.

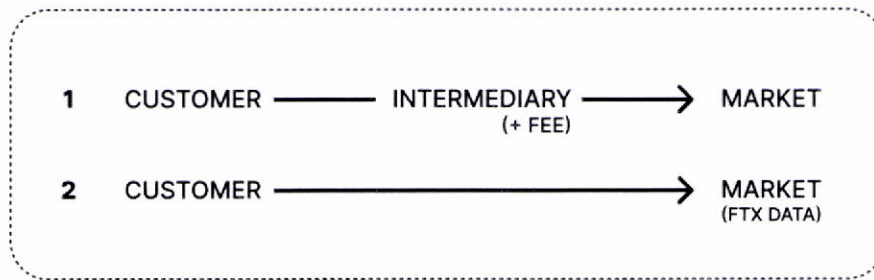
However, one of the things that prohibits an entity from taking on any or all of these functions can be the specifications of a regulation. To say it another way, much of current market structure is a creation of regulatory artifact rather than a reflection of a thoughtful and holistic approach to marketplace design, efficiency, transparency, and risk management. FTX built and continues to evolve its trading ecosystem with the latter approach in mind.

We believe that so long as the various needed functions necessary to the lifecycle of a transaction are being met, policy makers would do well to remain otherwise neutral on how a market is structured (so long as appropriate customer protections also are in place, discussed below). For one example, most market regulation today envisions an intermediated market place where an intermediary such as a broker interfaces directly with a customer (think back to calling in, or mailing in, your order to a broker that had access to the physical exchange floor). In contrast, crypto-asset platforms largely dispense with this mode in favor of a direct-membership market structure, where end investors onboard directly to the platform for trading, and not through an intermediary or broker (although service providers such as Internet and data-center providers are involved).

A non-intermediated market allows all users to get the same access to market data (consider that FTX's data is free, globally, versus much of the global trading venue industry where data fees are a material commercial component of the business), connectivity, and key features related to functionality and risk management, regardless of the sophistication of the user. The positive implications of this are potentially enormous, and are only just beginning to be seen, interestingly, around the direct-to-consumer crypto marketplace models. The



public is better served if the barrier to entry to transact competitively with global markets is an internet connection, rather than a \$100,000 (or more) data-subscription fee and a costly fee- or commission-based relationship with a broker that merely plugs you into the trading venue's technology. Non intermediated markets create a more level playing field that's often lacking in many traditional financial systems, whose market structures have created a number of challenges including real and perceived conflicts of interests between intermediaries and their customers.



Consequently, a direct membership market structure should be expressly permitted (not required, but permitted) so long as the relevant customer protections continue to be afforded, in this case by the platform provider.

3. Custody of Crypto Assets -- Key Functional and Disclosure Requirements

For crypto assets, the asset is safekept in a wallet, where custody can be performed by the asset owner or by a wallet holder on the customer's behalf. Where custody is performed on a customer's behalf by a platform operator or intermediary, appropriate safeguards should be disclosed in policies and procedures of the custodian. Key areas of focus and disclosure should include: wallet architecture; whether insurance is provided by the custodian; how private keys are kept secure, managed and transferred; managing risks related to insider collusion or fraud; and physical security of data centers.

Importantly, in the case of platform operators, consideration should be given to the increasingly common practice of using third-party providers for data centers (i.e., cloud-service providers) as well as custodial services. In these instances, the platform operator will not itself perform these functions but nonetheless will be held responsible by users for them, and users should be given visibility into how third parties will address the aforementioned issues. Market supervisors should require regulated platform operators to perform regular diligence on their vendors and to have sufficient business continuity and disaster-and-recovery programs in place in connection with their vendor suite.

4. Full-Stack Market Infrastructure Providers and the Lifecycle of a Trade -- Addressing Risk Related to Token Issuance and Asset Servicing, Orderly



Markets and Settlement of Trades, Cross Margining and Risk Management of Positions

Again, native crypto-trading platforms integrate into a whole the system for custody, issuing tokens, settlement of trades, and risk managing positions with one technology stack. In creating or fine-tuning a regulatory framework for these platforms, policy makers should ensure that market supervisors understand this system through well developed and clear policies and procedures disclosed by the platform operator. The framework should address the following key issues related to the lifecycle of a spot or derivatives trade.

Token Issuance and Asset Servicing

Token issuers who have access to the platform for purposes of issuing a token should be governed by disclosed policies and procedures that explain the listing standards for tokens. In some cases, existing securities laws will apply, in which case the policies and procedures should explain how such laws are complied with by the platform as it relates to issuing the security tokens.

This document does not address whether existing securities laws should be amended to account for distributed-ledger technologies and new methods of issuing securities in tokenized form. Suffice it to say here that some of the traditional requirements for central securities depositories might not be appropriate for platforms that offer these services, but others will be.

To the extent a token is not a security but has some security-like features at some point in time, and policy makers otherwise have not addressed whether such tokens should be treated as securities, a platform operator in any case should be required to disclose, or otherwise facilitate disclosure of (i.e., most material information for a token can be easily found on the Web, and a platform could direct a platform user to this information), key material information about the token issuer as part of the platform's listing standards.

Likewise, in the case of all tokens, the platform operator should develop and disclose policies and procedures for how a token issuer will interact with the platform for purposes of facilitating asset servicing, so that supervisors and platform users both can understand and assess the risks to the platform posed by token-issuance functionality. This would be especially relevant in the case of security tokens, where dividend payments and changes in ownership, for example, would impact the token and the owner of the token.

Market Surveillance

Good public policy would require that a crypto-platform operator has policies and procedures concerning the practices and technology used to perform market surveillance of the platform's trading environments in order to curb market manipulation and promote orderly markets. This is standard policy for traditional supervised markets and should be carried over to supervised crypto markets as well.



Settlement

With regard to settlement, our recommended policy would require the platform operator to have clear and transparent policies and procedures that explain when settlement of a transaction becomes final, and the conditions and circumstances under which the platform provider would reverse settlement due to errors, etc. By and large, regulated venues do this today in their terms of service, etc., and we think it is important they continue to do so.

One of the hallmarks of the FTX trading experience is to allow users to pair in a transaction nearly any combination of assets for purposes of settlement -- for example, a user could exchange BTC for USDC or for SOL. Sound policy would allow the platform to settle transactions by pairing the assets with any of the others listed on the platform, including stable coins or cash fiat currencies (see below for discussion of stable coins) but also other crypto assets, so long as the platform otherwise made clear how and when settlement becomes final.

Another hallmark of full stack trading experiences is access to credit to ensure and promote liquidity on the platform. Public policy should allow platform operators to facilitate the provisioning of credit to platform users so long as this service and function are well documented and explained to the supervisor and market participants on the platform. This is a clear example of where services previously provided by intermediaries can be solved by the trading venue itself.

Because crypto platforms have led the way in exchange innovation, public policy should anticipate that crypto firms will become more and more integrated with traditional payment rails and similar systems. Policy makers should consider whether and when to expressly delineate under what circumstances these platforms could access government-sponsored payment systems created for the settlement of securities, for example. Other policy initiatives will address whether and under what circumstances securities, including government-issued securities, can be reflected in tokenized form, but if such tokenization is permitted, an otherwise properly supervised platform operator should be allowed to access existing payment systems to facilitate settlement of such securities, even if interaction with that system is not on a real-time basis. Such a policy is recommended because otherwise access to this payment system would involve an intermediary, introducing various types of counterparty, operational, and credit risks to the platform that would not be in the interests of the participants on the platform (which itself would be highly supervised under our proposed framework).

Cross Margining and Risk Management

The regulatory framework for crypto should clearly allow for the cross-margining of both derivatives and spot positions on the platform with any and all assets permitted in the customer wallet and account, subject to appropriate risk weights and haircuts, as applicable. For the settling and risk management of crypto asset transactions on a crypto platform, the settlement and risk systems are automated and the relevant software interacts with the wallet and account that contain customer assets.



A well-designed regulatory framework would allow a single platform to perform all risk functions, and require the appropriate standards on those functions. For example, in addition to the custody requirements mentioned above, the settlement and risk-management systems should be appropriately explained to the market supervisor through the platform's rule book, and the regulator should be made aware of major changes to the system.

Sound policy also should ensure that risk-management systems used by a platform operator are configured to prevent customer accounts from going net negative across positions. A risk-management system that effectively performs this function with this goal, including through liquidations of customer positions, should not be allowed to do so in an arbitrary manner. Instead, the rules, risk parameters and business logic that trigger any actions taken by the customer platform as it relates to customer assets should be clearly disclosed and appropriately explained to the supervisor as well as the platform users in the platform's rule book, which should be approved by the primary market supervisor.

In permissioning the use of a risk-management system for clearance and settlement, policy makers should take care to remain technology and methodology neutral, so long as the platform operator can effectively demonstrate its responsibilities can be adequately met.

5. Trading Platform Providers -- Ensuring Regulatory and Market Reporting

Regulatory reporting of transactional activity should be required in order to provide market supervisors appropriate visibility into the trading platform, and to better allow supervisors to police for market manipulation and other unfair trade practices.

Policy makers should consider carefully how best to provide this data -- a requirement should be considered that would mandate that trading platforms create an API for the beneficial use of market supervisors to directly ingest data from the platform itself, rather than require a separate entity to undertake reporting responsibilities.

With respect to market reporting, a hallmark of the crypto-asset industry (as previewed above) is the provisioning of market data to users free of charge. Policy makers should carefully consider the standards under which platforms are permitted to charge users a fee for the provisioning or use of market data related to trading that takes place on said platform along with the implications of that activity for market access, transparency, and fairness policy initiatives. The right standards could incentivize the platform operators to focus on risk management, user experience, and product innovation for competitive advantage rather than fees based on trading activity brought to the platform by the user.

6. Ensuring Customer Protections

As suggested, crypto-asset platforms have ushered in an evolution of market structure in favor of a non-intermediated model, where entities separate from the platform are not needed in order to access the platform and the trading environment.



In this market structure, however, key customer protections should remain in place. From a policy perspective, one approach could be a very general and non-prescriptive one that requires that platform providers or intermediaries develop and disclose policies and procedures to ensure the best interests of all customers are protected at all times, and leave it to the entity's discretion. This would allow investors to choose a platform provider based on the robustness of those policies and procedures.

If a more detailed or prescriptive approach is favored, such an approach should consider whether specific requirements related to practices impacting platform customers such as front-running trading activity, market manipulation, general risk disclosures related to the assets and instruments listed for trading, appropriate and non-misleading communications with customers, and avoidance of entering into conflicts of interest with customers. Again, appropriate customer-protection requirements can be borrowed from the traditional finance space -- the key is to ensure that the platform provider can provide them rather than insisting that an intermediary perform the function. FTX believes that market place operators are properly positioned (perhaps best positioned) to deliver these types of disclosures and materials to users in a way that can be built directly into the trading venue user interface/user experience.

7. Ensuring Financial Responsibilities are Met

As with traditional markets, ensuring that customer assets are protected to the maximum extent possible should be a principle for regulating crypto-asset markets.

Again, the prominence of the wallet as a tool for storing assets is key to the crypto-asset space, and apart from requirements to ensure that the wallet itself is safely maintained and secured, policy makers should ensure that customers have access to real-time information about their account levels at all times (and redundant access paths, in the event of disruptions on one access path), particularly if and when a platform operator commingles customers' assets in an omnibus manner. If a platform provider elects to provide this infrastructure, operational complexity can be substantially reduced while customer assets are meaningfully protected.

In the case of a platform operator or an intermediary, policy makers should consider whether to adopt a minimum capital requirement (or other financial wherewithal condition) to ensure there are adequate resources to address operational and other types of risks that could jeopardize customer assets in custody. For platform operators, this could take the form of ensuring operational resiliency but in addition also ensuring adequate resources to address defaults and liquidations performed by a risk-management system (see above discussion on platform risk management). The goal should be to ensure platform operators need not depend on off-platform resources for settlement and risk management.

With respect to margining customer accounts, there should be a policy that expressly allows portfolio margining of all customer positions in all assets on the platform. This risk-management approach promotes capital efficiency and reduces operational risks to the platform or intermediary managing the customer account.



8. Ensuring Stable Coins Used on Platform Meet Appropriate Standards

A platform operator that permits the use of stable coins for settlement of transactions should be required to explain the standards the platform operator uses in deciding which stable coins it permits for such purposes. FTX has articulated and explained its policy recommendations for stable coin issuers (see <https://blog.ftx.com/policy/context-stablecoin-regulation/>).

The reason such a policy is recommended is that stable coins are exposed to reserve-volatility as well as redemption risk, and platform users should be entitled to some understanding of whether and to what extent those risks could impact their activity on the platform, including their impact on settlement of transactions (which might not be direct, but nonetheless indirect).

For example, a stable coin backed by risky and volatile assets and not transparently backed by an adequate amount of such assets with appropriate haircuts, could become exposed to price risk. This price risk could interfere with settlement finality on the platform, insofar as the value of the stable coin delivered as payment for the crypto assets in a transaction on the platform are suddenly not equal. Ensuring that stable coins allowed for use on the platform meet adequate standards set by the platform operator (or by public policy makers if applicable) mitigates this risk, and should better protect the users of the platform.

9. Full-Stack Infrastructure Providers -- Ensuring Appropriate Cybersecurity Safeguards are Kept

Market regulators in recent years have developed comprehensive cybersecurity requirements for market infrastructure providers. Policy makers should either apply the relevant safeguards already in place for exchanges, or otherwise require that the platform provider develop and disclose to market participants its policies and procedures regarding cybersecurity safeguards. In the case of platform operators already licensed by a market regulator, system-safeguard requirements already will be in place. In the case of platform operators not already licensed, one consideration for policy makers is to adopt a policy that helps facilitate standardization of these safeguards domestically as well as globally.

10. Full-Stack Infrastructure Providers -- Ensuring Anti-Money Laundering and Know Your Customer Compliance

Platform operators must perform appropriate KYC as part of user onboarding and must conduct regular anti-money laundering surveillance of user activity (both on the trading venue and via the scrutiny of related on-chain transfers in and withdrawals out). Many platforms, including FTX, use a combination of vendors and internal compliance personnel to assist with these functions today. However accomplished, it is critical that crypto market place regulation continues to require significant focus on the performance of KYC and AML



obligations. To ensure this, market place operators should be performing periodic self-audits and should also be subject to regular review and exam by their primary regulator on these requirements.

EXHIBIT E



Testimony of Sam Bankman-Fried Co-Founder and CEO of FTX

“Examining Digital Assets - Risks, Regulation, and Innovation.”
Hearing Before the U.S. Senate Committee on Agriculture, Nutrition and Forestry

February 9, 2022
10:00am ET

Introduction

Chair Stabenow, Ranking Member Boozman, members of the committee and distinguished guests, thank you for inviting me to testify before this committee today. It is an honor and a privilege to be before you to share some information and insights into the digital-asset industry as this committee, this chamber and the Congress as a whole deliberate on a variety of key topics stemming from this exciting space. Along with my colleagues and teammates at FTX, I am pleased to provide you with as much information as you need in order to ensure a fully informed and robust conversation around whether and how this committee could address some of these key topics.

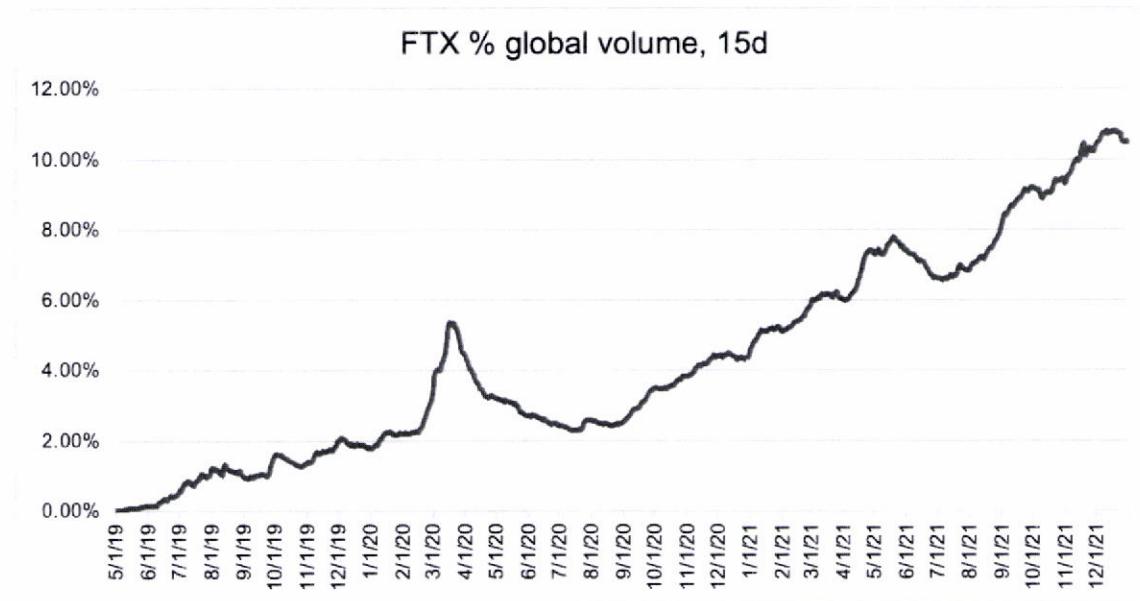
Background on FTX

The FTX group of companies (FTX Group or FTX) was established by three American citizens, Samuel Bankman-Fried, Gary (Zixiao) Wang and Nishad Singh, with international operations commencing in May 2019 and the U.S. exchange starting in 2020. The business was established in order to build a digital-asset trading platform and exchange with a better user experience, customer protection, and innovative products, and to provide a trading platform robust enough for professional trading firms and intuitive enough for first-time users. In the U.S., the company operates a federally regulated spot exchange that is registered with the Department of Treasury (via FinCEN, as a money services business) and also holds a series of state money transmission licenses. Our U.S. derivatives business is licensed by the U.S. Commodity Futures Trading Commission (CFTC) as an exchange and clearinghouse. FTX US also holds a FINRA broker dealer license. FTX’s international exchange, which is not available to U.S. users, holds a series of marketplace licenses and registrations in many non-U.S. jurisdictions.

The core founding team had unique experience to develop an exchange given their experiences in scaling large engineering systems at premier technology companies, combined with trading experience on Wall Street. This brought to the effort an understanding of how to build the best platform from scratch, as well as what that platform should look like, unencumbered by legacy technology or market structure. ***FTX has aimed to combine the best practices of the traditional financial system with the best from the digital-asset ecosystem.***



Early International Success. The international FTX.com exchange has been extremely successful since its launch. This year around \$15 billion of assets are traded daily on the platform, which now represents approximately 10% of global volume for crypto trading. The FTX team has grown to over 200 globally, the majority of whom are responsible for compliance and customer support. The FTX Group's primary international headquarters and base of operations is in the Bahamas, where the company is registered as a digital asset business under The Bahamas' Digital Assets and Registered Exchanges Act, 2020 (DARE).



In addition to offering competitive products, the FTX platforms have built a reputation as being highly performant and reliable exchanges. Even during bouts of high volatility in the overall digital-asset markets, the FTX.com exchange has experienced negligible downtime and technological performance issues when compared to its main competitors. We believe the dual-track focus on customers and reliability, plus compliance and regulation, are key reasons why FTX has also experienced the fastest relative volume growth of all exchanges since January 2020.

The core product consists of the FTX.com web site that provides access to a market place for digital assets and tokens, and derivatives on those assets. Platform users also can access the market through a mobile device with an FTX app. The core product also consists of a vertically integrated, singular technology stack that supports a matching engine for orders, an application programming interface or API, a custody service and wallet for users, and a settlement, clearing and risk-engine system. In a typical transaction, the only players involved are the buyers, sellers, and the exchange, without any other intermediaries.

The FTX Group has operations in and licenses from dozens of jurisdictions around the world, including here in the U.S and in Europe. At the time of this writing the FTX platforms have millions of registered users, and the FTX US platform has around one million users. For FTX.com, roughly 45 percent of users and customers come from Asia, 25 percent from the European Union (EU), with the remainder coming



from other regions (but not the U.S. or sanctioned countries, which are blocked). In comparison to the international exchange, nearly all users of FTX.us are from the U.S.

U.S. Operations. FTX services U.S. customers through the FTX US businesses, which includes the spot exchange, FTX US Derivatives, the NFT marketplace, and a soon-to-go-live FINRA broker dealer (FTX Capital Markets). FTX US is housed under a separate corporate entity from FTX international and is headquartered in Chicago, IL. It has a similar governance and capital structure to the overall corporate family, and also has its own web site, FTX.us, and mobile app. As with FTX.com, the core product is an exchange for both a spot market for digital assets as well as a market for derivatives on digital assets. Like other crypto-platforms in the U.S., the spot market is primarily regulated through state money-transmitter laws.

The U.S.-derivatives-market product is provided by FTX US Derivatives, which was formed through the acquisition and re-branding of LedgerX and is being integrated with the overall FTX US platform. The product offers futures and options contracts on digital assets (or commodities) to both U.S. and non-U.S. persons. FTX US Derivatives operates with three primary licenses from the U.S. Commodity Futures Trading Commission (CFTC): a Designated Contract Market (DCM) license, a Swap Execution Facility (SEF) license, and a Designated Clearing Organization (DCO) license. Prior to its acquisition, this business was the first crypto-native platform issued a DCO license by the CFTC in 2017, which was a milestone for the agency and the digital-asset industry. That license was later amended in 2019 to permit the clearing of futures contracts on all commodity classes and not just digital assets.

Commitment to a Diverse Workforce. We are proud of our workforce at FTX and believe that one of our key strengths is a culture of mutual respect and cooperation. This type of culture is borne from the diversity of our team, which necessitates a spirit of empathy, understanding and humility. These traits in our workforce are good for business and are much of the reason we have been successful at understanding our customers and their needs, and executing on products that meet their needs. FTX has employees from all over the world with diverse ethnic backgrounds, and 60 percent of women in our workforce are in senior management positions. The majority of our global leadership comes from diverse backgrounds.

Commitment to Mitigating Climate Impacts. FTX is very serious about minimizing our impact on the global environment where we live and work, and as a company we have taken several important steps to ensure this. Here, I would like to share several key points to explain why FTX's environmental impact is *de minimis*, but nonetheless explain the additional steps the company has taken to reduce even further this impact. *First*, FTX has no factories or physical products and therefore does not leverage global shipment networks, a substantial source of energy consumption. FTX has a small workforce with a small physical-office footprint, renting only a few small offices spread out around the world, and operates online. FTX corporate operations, therefore, do not have direct impacts on climate change at a globally relevant scale.

Second, while digital asset deposits to and withdrawals from FTX platforms unavoidably require some energy consumption as public blockchains facilitate and record those transactions, on FTX over 80 percent of deposits and withdrawals use low-cost, carbon-efficient Proof of Stake (PoS) blockchains. These PoS networks contrast with Proof of Work (PoW) blockchains such as the Bitcoin (BTC) blockchain, which consume significant amounts of energy to maintain the network. By using PoS blockchains for the vast majority of FTX deposits and withdrawals, FTX massively reduces the overall climate impact of blockchains. To facilitate the



remaining approximately 20 percent of deposits and withdrawals, energy consumption is relatively small, but FTX subsidizes the blockchain network fees to share in paying the costs of that energy consumption. Separate from deposits and withdrawals, transactions and transfers on the FTX exchanges themselves (which is the overwhelming majority of our user activity - 100% of our \$15 billion in average daily trading volume occurs on the exchange itself) do not require public blockchain activity and require only the amount of energy needed to run a cloud-based trading venue.

Third, FTX also has endeavored to take ownership of our portion of the environmental costs of mining associated with public blockchains and has purchased carbon offsets to neutralize those costs. Estimating the costs of energy consumption and carbon output associated with blockchain mining is difficult because mining is decentralized, and discerning how much energy is coming from which source is elusive. Nonetheless, FTX estimates that it costs \$1 million per year to take ownership of those costs, and has purchased a total of 100,000 tons of carbon offsets through two providers for \$1,016,000. Additionally, FTX through its affiliated arm, FTX Climate, created a comprehensive program to focus on the most impactful solutions to climate change possible. In addition to achieving carbon neutrality, our initial program funds research that we believe can have an outsized impact, as well as supports other special projects and carbon-removal solutions. FTX plans to spend at least \$1 million per year through FTX Climate. Those interested in learning more about these initiatives can find more information at <https://www.ftx-climate.com>.

Fourth, FTX believes energy consumption by PoW blockchains and its impacts should be assessed within the appropriate context, which we believe should include consideration of their benefits, an understanding of their differences with PoS networks and how each type of network is being leveraged and growing, as well as a comparison to other energy-consuming activities or even industries. For example, BTC has delivered benefits to many as measured by access to financial products, asset transmission, and wealth creation, which should be weighed against the network's energy costs.¹

Additionally, while PoW networks attract attention for their energy consumption, transactional activity on PoS networks is growing substantially due to their ability to process a greater number of transactions in a shorter period of time at a lower cost. FTX believes these PoS networks will become increasingly important over time, which will continue to minimize the overall climate impact of blockchains. And finally, the energy consumption by PoW blockchains is relatively small when compared to other industries to which the BTC network in particular is often compared.² Of assets whose futures trade on CFTC-regulated venues, BTC actually ranks fairly low in terms of environmental impact, relative to traditional, physically mined commodities, oil, livestock, and other environmentally impactful assets.

Commitment to Giving Back. FTX is committed to improving the lives not just of our customers through superior products, but also the lives of those in the broader global community. Toward this end, FTX created the FTX Foundation, which was founded with the goal of donating to the world's most effective

¹ See "Everything We Want Costs Energy, Including Bitcoin," by Benjamin Powers, *CoinDesk*, Apr. 22, 2021, <https://www.coindesk.com/tech/2021/04/22/everything-we-want-costs-energy-including-bitcoin/>; see also "The Bitcoin Mining Network: Trends, Average Creation Costs, Electricity Consumption & Sources," *CoinShares Research*, June 2019 Update, <https://coinshares.com/assets/resources/Research/bitcoin-mining-network-june-2019-fidelity-foreword.pdf>

² See "On Bitcoin's Energy Consumption: A Quantitative Approach to a Subjective Question," *Galaxy Digital Mining*, May 2021, Rachel Rybaczky, Drew Armstrong, Amanda Fabiano. <https://docs.google.com/view/adwmdeeyfvqwe2>.



charities. FTX has pledged to donate one percent of net revenue from fees to the foundation, and its founders have pledged to donate the majority of what they make. FTX, its affiliates, and its employees so far have donated over \$50 million to help save lives, prevent suffering, and ensure a brighter future.

Discussion

At the committee's request, in this discussion I will address the following topics: (1) an overview of the products offered by FTX; (2) the current U.S. regulatory landscape and existing regulatory gaps; and (3) a vision for the CFTC as a digital-assets market regulator for the U.S. Throughout this discussion I distinguish our non-U.S. and U.S. businesses by referring to FTX International and FTX US, respectively, where relevant. Furthermore, I will use 'digital assets' generally to refer to digital asset tokens that are generally considered to be a commodity rather than a security.

1. FTX Products and Their Role in the Digital-Asset Economy

Core Product: Digital Asset Exchange. As briefly explained above, FTX's core products are its digital asset exchanges, FTX.com, FTX.us and FTX US Derivatives (<https://derivs.ftx.us/>) – FTX.us and FTX US Derivatives are being integrated into one user-experience platform and web site. While FTX.com offers both spot market and derivatives trading, those two categories are separated in the United States, with spot market trading on FTX.us and derivatives trading offered through FTX US Derivatives.

On FTX.com and FTX.us, users can trade digital assets with other users for cash, stablecoins and other digital assets. On the spot markets, users can set a variety of different order types on a central limit order book (CLOB). Users are able to offer orders at a specific price (limit order) or trade on the book at the best price shown. A robust price and time priority matching engine sits in between these orders to connect buyers and sellers and display the best available prices.

Futures and volatility contracts related to digital assets also are listed on the platforms as well, with or without leverage. On FTX.com, leverage is limited to a maximum of 20x (i.e., minimum margin of 5%), and much less in most cases; as of now leveraged trading is not available to users of FTX.us (although there is facilitation of other forms of credit to Eligible Contract Participants -- see below). The FTX.com platforms have listed quarterly-settled (as well as perpetual) futures contracts that are cash settled. Additionally, MOVE volatility contracts are offered on FTX.com and are similar to futures except, instead of expiring to the price of a digital asset, they expire to the USD amount that the price of BTC has moved in a day, week or quarter. FTX.com also offers BTC options for trading. Finally, FTX US Derivatives offers to U.S. users both BTC and Ethereum (ETH) derivatives.

To cover initial and maintenance margins, derivatives and leveraged-product users can post collateral in the form of cash, stablecoins or other digital assets held in their account. The exchanges also have integrated risk-management and back-office systems to perform clearing and settlement of trades, which includes updating records of ownership of the digital asset or digital asset futures and options contracts traded (clearing), and transferring value between users' accounts (settlement), using either delivery versus payment or delivery versus delivery. Importantly, FTX's risk model avoids the systemic warehousing of such risks over a weekend or other



period of market closure, and instead addresses at-risk positions and accounts immediately, in real time, 24/7/365.

Off-exchange Portal for Arranging and Matching User Orders. FTX also offers an off-exchange portal that enables users to connect with other, large users, enabling them to request quotes for spot digital assets and trade directly. This facility forwards requests for quotes to large users, returning prices offered and enabling users to then place an order. The portal is similar to other facilities found in traditional markets where a central limit order book is not used to match trades.

Third-Party Lending. FTX platform users can lend their digital assets to those who seek them for spot trading. Users (including eligible users on FTX.us) wishing to trade digital assets they do not have may borrow them from users willing to lend them by posting collateral in the form of cash, stablecoins or other digital assets held in their account. The FTX platform maintains a borrow/lending book and matches users wanting to borrow with those willing to lend.

NFT Marketplace. FTX operates a marketplace for users to mint, buy and sell non-fungible tokens (NFTs). NFTs are tokens that are not fungible with any other tokens. They can take a number of forms and, for example, can be redeemed for a physical object, or an experience (such as a movie or phone call), or can be linked to a digital image, etc. FTX's NFT marketplace is conducted through an auction system. Alternatively, users can purchase directly at the prevailing selling price set by the seller. Users can choose to display their NFT collection on the FTX NFT marketplace portal, and/or to continue to buy or sell on the NFT marketplace.

FTX Pay. FTX Pay is a service offered to merchants to accept payments in digital assets or fiat. Users have the option to top up their FTX accounts with ACH or credit cards, which are then used to make payments to enrolled merchants. For digital asset payments, the relevant user's FTX account would be debited by an amount in the chosen digital asset that is equivalent to the amount that is payable to the merchant. FTX facilitates the payments to the merchant by providing the payment infrastructure. This allows merchants to accept digital asset payments, without having to assume any volatility risk for the assets.

Staking. FTX.com offers the ability for users to "stake" certain supported digital assets on the platform. By staking such digital assets, users can earn staking rewards; in addition, for some tokens, users can receive and unlock certain benefits on FTX, such as reduced trading fees, withdrawal fees, as well as other rewards. Generally, users can "unstake" their digital assets at any time, subject to an unstaking or unbonding period.

Types of Digital Assets on FTX Platforms. FTX has developed listing standards and a framework for determining which digital assets to list on the platforms. Part of that framework entails evaluating the assets to assess factors such as security, compliance risk, legal risk, technological risk and other factors. *On FTX.com*, which again is unavailable to U.S. users, FTX has listed approximately 100 stablecoins and other digital assets on its spot exchange. Digital assets include tokens such as Bitcoin (BTC), Ether (ETH), Uniswap Protocol Token (UNI), Chain Link token (LINK), Solana (SOL), and Aave (AAVE).

On FTX.us, the company has taken what we believe to be a conservative approach to listing digital assets for trading. Consequently, there are far fewer tokens listed for trading on FTX.us due to much stricter listing standards for this platform. Care has been taken to avoid listing assets with features viewed to be similar



to securities in the U.S. The assets and tokens listed more closely resemble BTC and ETH, two tokens expressly addressed by the CFTC to be commodities subject to its jurisdiction.

On FTX US Derivatives, users can trade a Bitcoin Mini Option or Ethereum Deci Option, a Next-Day Bitcoin Mini Swap or Next-Day Ethereum Deci Swap, and a Bitcoin Mini Future. All of these contracts are fully collateralized. FTX is in discussions with the CFTC about expanding our derivatives offerings to U.S. customers.

In sum, the products available now in the digital-asset economy and on the FTX platforms are very similar to ones found in the traditional finance space. A key differentiator from traditional finance is that investors can get access to all of them without going through multiple intermediaries. FTX believes the market structure for digital-asset platforms is risk reducing compared to others because it facilitates more effective risk management and eliminates unnecessary points of failure. In addition, all market data is made public and free -- all users are given full knowledge of the orderbook and trades. Easy access to financial products and solutions on one, easy-to-use platform is a powerful feature that empowers investors, consumers and entrepreneurs. By simplifying access to these tools, users of the products can focus more on the core of their everyday financial goals and needs while making more informed decisions -- ultimately this is what FTX believes will promote financial inclusion and economic security for more people.

2. Current Regulatory Landscape for Digital Assets and the Role of the CFTC

The current U.S. landscape for the regulation of the trading of digital assets is a patchwork of federal market regulations and state-level money-transmission laws. As explained above, FTX US offers “cash” or “spot” markets as well as derivatives markets through FTX US Derivatives,³ but the regulatory treatment of each type of market is different. **For cash markets** in the U.S., if a digital asset is a security as defined by the Securities Act of 1933, then the digital asset is subject to the jurisdiction of the SEC, and the asset as well as any platform that lists it for trading generally must be registered with the SEC. A digital asset that does not meet the definition of a security under U.S. law would generally still meet the definition of a “commodity” under the Commodity Exchange Act (CEA).⁴ Historically, the CFTC generally has not exercised jurisdiction over the operation of spot markets for commodities (with few exceptions), but FTX believes the CFTC could assert jurisdiction over digital-asset spot markets under certain circumstances,⁵ even where the agency has not done so to date – more on this below.

In any case, there are no U.S. platform operators of only **cash markets** for digital assets supervised by the SEC or the CFTC at the moment. Many states have taken the view that their money-transmission laws

³ Cash or spot markets are markets where the asset being purchased is delivered immediately. Derivatives markets are ones where contracts or agreements between two parties are traded, and the contract’s value is based upon an agreed-upon referenced asset or set of assets, like an index.

⁴ “The term ‘commodity’ means . . . all . . . goods and articles, except onions (as provided by section 13–1 of this title) and motion picture box office receipts (or any index, measure, value, or data related to such receipts), and all services, rights, and interests (except motion picture box office receipts, or any index, measure, value or data related to such receipts) in which contracts for future delivery are presently or in the future dealt in.” See CEA section 1a(9).

⁵ See *Retail Commodity Transactions Involving Certain Digital Assets (“Actual Delivery Guidance”)*, 85 Fed. Reg. 37734 (June 24, 2020), <https://www.cftc.gov/sites/default/files/2020/06/2020-11827a.pdf>.



apply to digital-asset platforms that have customers in their states, which requires state licensure, but these laws do not possess the hallmarks of federal market regulation and their market-integrity and investor-protection principles.⁶ At the time of this writing, FTX US and the other largest U.S. digital-asset platforms offering cash markets have many state money-transmission licenses and continue to pursue others. A money-transmission business also implicates the U.S. Bank Secrecy Act and by doing so must register with the U.S. Department of Treasury via FinCEN, unless otherwise exempted; FTX US is so registered.

For derivatives markets in the U.S., if the digital asset referenced in the contract is a commodity and not a security, the trading of derivatives on that digital asset is subject to the jurisdiction of the CFTC. The CFTC today oversees the trading of BTC and ETH derivatives on multiple U.S. trading platforms, including FTX US Derivatives, which as mentioned lists futures, swaps and options on these digital assets. FTX believes that there are many other digital assets that are not securities, and so derivatives on those digital assets would fall under the CFTC's jurisdictions as well and could be listed by appropriately registered platforms such as FTX US Derivatives.

This patchwork of regulations increases the operational complexity of digital-asset platform operators, decreases capital efficiencies for customers, and hampers the ability of platform operators to optimize their risk-management programs. It also reveals gaps in **federal market oversight** due to the interplay of the CFTC and SEC regimes:

- First, the scope of the CFTC's jurisdiction does not indisputably apply to all **cash markets** for (non-security) digital assets, and consequently U.S. customers of the operators of these markets do not have the benefit of legally enforceable, market-integrity and investor-protection requirements of those markets enforced by a federal market regulator; and
- Second, not all digital assets indisputably meet the definition of a security under U.S. law, and consequently there are not clear, consistent and enforceable disclosure standards to inform investors about key information to assess risk relating to those digital assets.

As such, there is *no* clear market oversight for spot trading of (non-security) digital commodities.

Additionally, along with the unclear application of the "securities" definition as it applies to some digital assets, these gaps to date have discouraged participation by many in the U.S. digital-asset markets, including entrepreneurs, institutional market participants and other investors. In part due to these points, the vast majority of trading volumes in digital-assets markets (which FTX estimates to be roughly 95% of global volume) takes place on non-U.S. trading platforms, even though much of the human and intellectual capital driving the industry comes from U.S. persons – many of whom have left the U.S. to build and grow their businesses.⁷ FTX believes this current state is harmful to U.S. competitiveness and is denying our country many of the benefits from the growing digital-asset industry, including attracting to the U.S. more capital formation, the best of the global workforce, intellectual property and tax revenue. In addition, hundreds of billions of

⁶ FinCen defines money transmission as "the acceptance of currency, funds, or other value that substitutes for currency from one person and the transmission of currency, funds, or other value that substitutes for currency to another location or person by any means." See 31 C.F.R. § 1010.100(ff)(5)(i)(A).

⁷ See <https://ftx.com/volume-monitor> for data on trading volume on offshore versus US platforms.



dollars of digital asset stablecoins are currently backed by the USD dollar, a state that clear and consistent regulatory guidelines could help maintain

U.S. Retail Commodity Transactions and the CFTC's Actual Delivery Guidance. Another piece of the U.S. regulatory patchwork for digital assets is the CFTC's treatment of retail commodity transactions. The CEA provides that a commodity transaction (including one involving a digital asset) must be listed on a CFTC-registered market, and is subject to CFTC's anti-fraud authority, if (1) it involves a retail participant, and (2) leverage, financing or margin is offered or used, *unless* the sale "results in actual delivery within 28 days".⁸ The CFTC provided guidance to the public about how to interpret "actual delivery" under the statute – thus, there are circumstances when a retail, digital-asset transaction *would* fall under the CFTC's jurisdiction, and others when it would not.⁹ I discuss below FTX's views about how bringing all retail commodity transactions involving (non-security) digital assets under CFTC jurisdiction would be beneficial to the public.

The Regulation of Stablecoins. Another important part of the digital-asset ecosystem globally and in the U.S. are stablecoins, which are frequently used as a means to transfer collateral to and from digital-asset platforms, and used as collateral once on the platform. Their regulatory treatment also is part of the overall patchwork of regulations that apply to the digital-asset ecosystem. There are several stablecoins used on U.S.-based digital-asset platforms that have been issued by U.S. state-regulated trust companies, and thus have the benefit of state-level prudential supervision.¹⁰ Other stablecoins, some widely used, are not issued by a U.S. institution licensed at the federal or state level. The *President's Working Group on Financial Markets'* recently released "Report on Stablecoins" ("**PWG Report**") provided a number of recommendations for the regulatory treatment of stablecoins, and FTX has shared its own recommendations for how to ensure the safety and soundness of stablecoins (included here as an exhibit), the core of which is a robust auditing and registration framework overseen by a federal agency.¹¹

There are other regulatory issues affecting the digital-asset industry in the U.S., but the foregoing are the most relevant to this committee. Next I address how this committee, the Congress and the CFTC could rationalize the regulatory framework for digital assets and pursue policies that would better protect investors and increase U.S. competitiveness.

3. A Vision for the CFTC as a Digital-Asset Supervisor

The CFTC already has considerable experience and expertise in the regulation of digital assets, and FTX believes the Congress would be wise to leverage that expertise for the benefit of the public as well as the digital-asset industry. The CFTC authorized the first BTC-derivative-contract listing in 2014, nearly 8 years ago,¹² and the FTX US Derivatives business – the first crypto-native platform approved by the CFTC – has been

⁸ See CEA section 2(c)(2)(D).

⁹ See *id.* at n.5.

¹⁰ Paxos Standard ("PAX"), issued by Paxos Trust Company, and the Gemini Dollar ("GUSD"), issued by Gemini Trust Company, are issued by Trust companies regulated by the New York State Department of Financial Services ("NYDFS").

¹¹ See Exhibit A to this testimony; FTX's recommendations also can be found at <https://www.ftxpolicy.com/stablecoins>.

¹² See TeraExchange, LLC's Filing under CFTC Regulation 40.2, Certification of BTC Swaption Contract, April 24, 2014; <https://teraexchange.com/style/images/rnd/instr/Tera%2040.2%20Filing%20-%202014-22%20Listing%20of%20Swaption.pdf>.



licensed and supervised by the CFTC for nearly 5 years.¹³ The CFTC-licensed, more traditional exchanges with some of the largest global volumes of derivatives-trading activity have had digital-asset derivatives trading on their platforms for more than 4 years, all under active supervision by the exchanges themselves as self-regulatory organizations, in addition to the oversight of the CFTC.

These facts show that there has been substantial capacity building at the CFTC over years regarding digital assets. No other market regulator from a mature, major global economy can make this claim of experience from and expertise about the digital-asset ecosystem, and the Congress should actively consider how the agency can build on this to better deliver market-integrity and investor-protections goals to the public and ensure the benefits of the industry's growth can be maximized in the U.S. The following are recommendations for this committee that would achieve those goals.

Expand the CFTC's Jurisdiction over Digital-Asset Spot Transactions. FTX recommends broadening the CFTC's jurisdiction to include, at a minimum, all spot transactions in (non-security) digital assets involving retail investors, regardless of whether the transactions currently fall within CFTC's jurisdiction under CEA section 2(c)(2)(D). This recommendation is consistent with relatively recent steps the Congress has taken to expand the CFTC's jurisdiction over retail cash markets, including through the passage of the Dodd-Frank Act in 2010. This could be accomplished in several specific ways.

First, Congress should encourage the CFTC to work with industry to permit retail commodity transaction contracts related to digital assets to be listed on boards of trade registered with the CFTC, pursuant to the agency's existing authority over these transactions as established by CEA section 2(c)(2)(D) and as affirmed in the 2020 Actual Delivery Guidance. This would clearly promote the public interest and would not require further legislation, being consistent with the current authority of the CFTC.

Second, Congress could eliminate the 28-day "actual delivery" period in the CEA as it relates to digital-asset transactions, on the basis that doing so would clearly bring to more of these retail transactions the full panoply of protections from the CEA, which FTX believes also would clearly promote the public interest.¹⁴

Third, Congress could more broadly amend the CEA so that the CFTC has jurisdiction over all (non-security) digital-asset spot trading activity, not just retail commodity transactions under CEA section 2(c)(2)(D), and derivatives involving (non-security) digital assets. Such a step also should involve a consideration of the appropriate disclosure regime for digital assets that ensures investors are adequately informed of their risks.¹⁵

In the meanwhile, the Congress in general should actively encourage the CFTC to appropriately broaden its interpretation of its authority over digital-asset spot transactions in order to better rationalize and condense the patchwork of regulations governing U.S. digital-asset activity, facilitating the offering of both market types on one platform. In my prior congressional testimony and in *FTX's Key Principles for the*

¹³ See CFTC Orders Granting DCO, SEF and DCM licenses to LedgerX.

¹⁴ This approach would encompass those crypto transactions that, per the 2020 Actual Delivery Guidance, are not offset in any way, and whose proceeds are fully withdrawn to external, customer-controlled wallets within 28 days.

¹⁵ See "Token Issuances" at <https://www.ftxpolicy.com/areas-for-crypto-regulation> for a sketch of a possible disclosure regime for digital asset issuances.



Market Regulation of Crypto-Trading Platforms (Market Regulation Key Principles), FTX explained the benefits to offering these two market types under one unified system, with one rule book and one technology platform to manage risks related to all trading activity in customer accounts.¹⁶ This approach facilitates one collateral and risk-margin program for customer accounts holding both cash and derivatives positions, allowing the platform to better manage market risk, and reducing operational risk owing to a single technology stack for the front end (the user interface) to the back end (settling and risk managing positions). Public policy should permit this one-rule-book model due to its risk-reducing and customer-protection attributes.

Fourth, as recommended in **FTX's Market Regulation Key Principles**, Congress, the CFTC and the SEC should pursue a scheme where a digital-asset platform operator could opt into a program of joint supervision by the CFTC and SEC when there is joint jurisdiction over digital assets listed on the platform (e.g., when listings include non-security digital assets as well as digital assets that are securities). Under these circumstances, FTX recommends that one of the market regulators serve as the primary regulator, and the other as the secondary regulator, for market oversight. This type of paradigm is familiar to market regulators globally and also could include the accommodation of one rule book, one matching engine and risk engine supported by one technology stack. FTX believes this approach could largely be created under existing CFTC and SEC authorities, but Congress should encourage the agencies to leverage their authorities today with these goals in mind, and consider legislating such an approach when feasible.

Embrace the Direct-Membership Market Structure of Digital-Asset Platforms. The CFTC should continue to permit and embrace a market structure that allows investors to become direct members of the CFTC-licensed exchanges and clearinghouses that offer digital assets, without the need for intermediation. FTX's CFTC-regulated business has been operating with this type of market structure for nearly 5 years, without any loss of customer funds or significant platform outages, and has demonstrated that such a business model can comply with the CEA and continue to deliver on important investor protections embodied by the CEA. U.S. policy should remain market-structure neutral and allow non-intermediated markets for digital-asset products, so long as key investor protections can be adequately ensured. Every major incumbent U.S. derivatives trading venue offers a direct member clearing solution, and certain incumbent platforms have the majority of their users as direct members—this is not a new concept for the CFTC and its surveillance and risk teams.

FTX released this week **FTX's Key Principles for Ensuring Investor Protections on Digital-Asset Platforms ("Investor Protection Key Principles")**, where we identified the most important components of an investor-protection regime (which the CEA and CFTC rules also reflect), and how FTX offers those protections today with the direct-membership model.¹⁷ These components include:

- maintaining adequate liquid resources to ensure the platform can return the customer's assets upon request;
- ensuring the environment where customer assets are custodied, including digital wallets, are kept secure;
- ensuring appropriate bookkeeping or ledgering of assets and disclosures to protect against misuse or misallocation of customer assets;

¹⁶ See Exhibit B to this testimony, and <https://www.ftxpolicy.com/>.

¹⁷ See Exhibit C to this testimony, and <https://www.ftxpolicy.com/investor-protections>.



- ensuring appropriate management of risks including market, credit/counterparty, and operational risks; and
- avoiding or managing conflicts of interest.

While the CFTC's rules reflect these important principles today, they often contemplate an intermediary such as a "futures commission merchant" bearing the responsibility of those protections to the investor. The CFTC wisely has allowed the more-modern market structure so long as those investor protections are ensured and enforced.

The ***Investor Protection Key Principles*** touch on two key points that I reiterate here and the CFTC has recognized. *First*, technology advances have enabled a non-intermediated market structure that, combined with effective platform operations, can provide the above-identified protections more effectively, ultimately leading to an overall risk-reducing market structure, for the benefit of investors. *Second*, to the extent that legacy regulations or policies would assume or require an intermediary to provide these protections, that approach often imposes unnecessary burdens and costs (including fees and both capital and operational inefficiency) on investors and markets and obscures market-data without corresponding benefit. The CFTC and Congress should address and update any such rules through continued, appropriate interpretations in the case of the CFTC, and refinements to corresponding legislation in the case of Congress, to ensure equitable access to financial markets.

Ensure the Safety and Soundness of Stablecoins. Stablecoins have become a critical component of the digital-asset ecosystem, and policy makers have raised concerns about their growing market size and whether the lack of uniform federal oversight presents systemic concerns. While the ***PWG Report*** investigated bank-like supervision for *all* stablecoin issuers, such an approach might not be necessary so long as the core requirements of stablecoin oversight are met. These include:

- Daily attestations of what assets (cash, bonds, etc.) are backing a stablecoin;
- Periodic audits to confirm the asset backing is as claimed;
- Federal oversight and ability to inspect the assets;
- Haircuts for assets with moderate risk; and
- An open line for law enforcement to blacklist addresses and persons associated with financial crimes.

The CFTC could play an important role in creating a workable framework with these requirements.

First, the Congress could give the CFTC authority to license stablecoin issuers and subject them to these core requirements, perhaps by creating and authorizing a new registration scheme for stablecoin issuers or by otherwise allowing them to seek an existing CFTC license with new commiserate authorities, such as a DCO license. Indeed, a DCO is well accustomed to taking custody of assets, providing relevant reports to ensure their safekeeping, undergoing related audits (see ***FTX's Investor Protection Key Principles***), and managing risks



through appropriate collateral management and marking to market. The appropriate duties and responsibilities of a stablecoin issuer are much the same.

Second, the CFTC without any new legislation could require DCOs providing settlement and clearing services for digital-asset platforms to condition the acceptance of stablecoins as collateral by the DCO on the stablecoin issuer meeting these same core requirements, and the stablecoin issuer providing the needed attestations and audits to verify they are being met. The CFTC could require this through review and enforcement of DCO policies and procedures related to the DCO's approved risk-management program. To be sure, considerable public policy could be made through creative use of the CFTC's existing authorities as suggested, leading to standardized practices for stablecoin issuers that would protect the safety and soundness of the broader financial system.

We believe there is some urgency to create a practical regulatory solution that promotes disclosure and transparency, but that does not inhibit the value that stablecoins provide to markets and market participants. All aspects of digital asset regulation will be iterative and done in phases. For stablecoins, getting a general principles-based disclosure and transparency requirement in place now (perhaps via CFTC guidance, as a follow-on to certain CFTC stablecoin enforcement initiatives), while deferring a decision on the approach to some of the broader questions (such as whether "registration" is required and which agency should oversee that registration), would deliver a substantial amount of regulatory value.

Adequately Fund the CFTC to Ensure Resources to Protect Digital-Asset Investors. Finally, the successful implementation of most of the foregoing recommendations would depend on the CFTC having adequate resources to do so. FTX supports reasonable steps to provide those resources, including by contributing its own fair share of funds for use by the CFTC to expand its purview over digital assets. A program for generating and conveying such resources to the CFTC could be designed in a variety of different ways, and FTX stands ready to engage with this committee and the Congress more broadly to assist in designing and contributing to such a program.

Conclusion

FTX is grateful to this committee for the opportunity to share information about the digital-asset industry, our business, as well as the recommendations for how the CFTC in particular can contribute to the industry's growth. FTX believes the CFTC and this committee could play an even more prominent role in the digital-asset ecosystem and bring greater investor protections by closing some of the regulatory gaps identified in this testimony. FTX believes that such efforts would combine the best aspects of traditional finance and digital-asset innovations, one of our primary goals, and further empower investors and consumers by consolidating access to the tools they seek for economic security, all in one place, and from a singular, risk-reducing platform.



Exhibit A

Stablecoin Regulation

Note: As global regulators continue to consider whether and how to regulate various components of the digital asset ecosystem, we think it is important to share our perspective on how a practical, responsible, and thoughtful approach to regulation might look. This post is not a comment on the current regulations surrounding stablecoins, a legal interpretation of them, or advice on the suitability of transacting in or owning a given stablecoin. This post is an exploration of what a hypothetical new regulatory framework for stablecoins could look like, engineered towards solving for key regulatory priorities and preserving critical usability features.

Context on stablecoin regulation

As the cryptocurrency industry matures, it's vital that a robust regulatory regime grows alongside it which takes seriously its duty to protect consumers, ensure transparency, and prevent illicit activity, while still allowing for innovation and growth.

Stablecoins play a crucial role in the cryptocurrency ecosystem; the majority of all transactions in crypto are settled via stablecoins, and they are one of the most promising payment tools for the broader financial sector. It is also, as of now, unclear exactly what regulatory regime stablecoins will end up being placed in.

What is a stablecoin?

Let's start with the core question: what exactly is a stablecoin?

There are a wide variety of stablecoin designs that have been utilized in the cryptocurrency ecosystem. For illustrative purposes, in this article we will assume a stablecoin on the US Dollar, although parallel assets do exist on EUR, GBP, and other currencies. We will also imagine that it is 1:1; that is, 1 token represents 1 US Dollar. We will imagine that the token's ticker to be STBC.

In this construct, this imaginary stablecoin, STBC, is a blockchain-based asset that can be exchanged for a US Dollar. That would typically be accomplished through the following mechanics and arrangements:

Reserves: typically a stablecoin is backed by one or more USD accounts or other similar assets, generally held at a bank, in an account under the name of the stablecoin sponsor, issuer, or other similar body. The USD value of the assets should be at least the supply of the stablecoin.



Token: a blockchain-based token, STBC, where one token represents \$1 (as supported by the creation / redemption process, described below). These could be issued by a private company, a central bank, or a decentralized protocol.

Creation/Redemption: In order to create 1 STBC token, an eligible user must send \$1 to the reserve account. In return, the protocol mints 1 new STBC token and sends it to the user.

Similarly, an eligible user may send 1 STBC token back to the protocol to redeem it for \$1. The protocol destroys the token and sends \$1 back to the user.

What are the benefits of stablecoins?

We believe that stablecoins are one of the most important innovations of the cryptocurrency industry.

Let's say you want to send \$20 to a friend. What are your options?

- a) You could hope that both you and your friend use the same peer-to-peer transfer app (e.g. Venmo), and then separately each of you figure out how to send money to/from that app.
- b) You could send a \$20 wire transfer to your friend. This would likely take a day and cost \$5+ in fees; and if it's international, it might take a week and cost substantially more in fees.
- c) You could send \$20 via ACH, if both you and your friend use US-based USD bank accounts. Then, the transfer would not fully settle for months, exposing both parties to "chargeback risk".
- d) You could go to an ATM, withdraw \$23 paying a \$3 fee, and hand \$20 to your friend, who would then have to find a way to use the physical dollar bills.
- e) You could send 20 STBC to your friend's cryptocurrency wallet; if you use an efficient blockchain (or both use the same exchange), it will arrive in less than a minute, costing a tiny fraction of a penny in fees.

Option (e), the stablecoin, has a compelling case here as an efficient means of transfer.

Taking our real world use case a step further, consider that a user wants to build a blockchain based application. How should the application's users contribute and withdraw assets?

Here, the users face the same potential options and cost structures as before; once again, stablecoins are the cheapest, safest, fastest way for a user to engage with that application.

What are the risks of stablecoins?



There are three major intertwined risks associated with stablecoins.

Reserve volatility risk

If the stablecoin is backed by something other than US Dollars in a bank account, the asset might depreciate against USD. If, for instance, you were to back a stablecoin with 1,000,000 tokens issued with \$1,000,000 of the SPY (S&P500) ETF, and stock markets decreased 5% in price, you would be left with only \$950,000 backing 1,000,000 stablecoins—meaning that the “stable” token had in fact fallen in value, at least in regards to the reserves it is purported to be redeemable for!

Unlike investment products where customers gain from appreciation in the assets backing the product, there is generally no way for a stablecoin to be worth more than \$1, as customers can always create more for \$1 each. This means that the core philosophy behind the assets backing a stablecoin should be to focus on assets with low volatility which are very similar to USD. US Treasury bonds may be an appropriate asset for a stablecoin’s reserves; if Bitcoin is used, it has to be overcollateralized to an extent that there is very little risk of loss to the stablecoin holders. Backing 100 stablecoins with \$101 of BTC is untenably risky: a mere 2% decrease in bitcoin markets would cause the stablecoin to be under-backed and no longer fully redeemable for \$1. Backing 100 stablecoins with \$400 of BTC, on the other hand, is substantially more defensible, as there is very little risk of a 75% move before the reserves would have a chance to de-risk. Any stablecoin issuer or designer must have a transparent, robust risk model to mitigate the volatility of its reserves, including determining which assets are appropriate for its reserves.

Redemption risk

A related worry is that a user might own 1,000 STBC, go to the issuer to redeem their STBC, and be denied.

This might happen if the reserves had in fact run out of dollars and so there was nothing left to redeem STBC for; this would likely imply the reserves had not been in USD, and had fallen in value.

Alternatively, this could happen if the issuer arbitrarily decides to block your redemption, possibly to try to keep more impressive metrics for STBC.

Either way, the lack of ability to redeem (or a lack of transparency related to redemption process and requirements) presents a risk to the user.

Financial crimes

One final risk of stablecoins is that they could be used for financial crimes, or to finance illicit activities.

Any stablecoin issuer or designer must include creation, redemption, and use mechanics that, in harmonization with regulation, address and avoid this use case.



What is a sensible stablecoin regulatory framework?

As noted above, we believe that stablecoins have presented a significant positive use case to the world, and they continue to hold the potential to revolutionize the payments and remittances industry. Stablecoins could in the future revolutionize the payments industry, drastically reducing friction and transaction costs, delivering to many around the world the benefits that come with having access to reliable and usable value transmission. As such, we think it is important to ensure that the ongoing regulatory discussions around the approach to a framework for stablecoins be based on a practical structure that solves equally for usability, reliability, transparency, consumer protection, and the identification and prevention of financial crimes.

We look forward to engaging with regulators on examples of what such a framework might look like. There are many different approaches and we remain open and excited for feedback and engagement from regulators and from other participants in the cryptocurrency industry.

As outlined above, there are real risks associated with stablecoins, and any framework should work to mitigate those.

As such, while we look forward to continuing dialogue on the details, we would be in favor of a proposal for a transparency-based reporting and registration regime for stablecoins.

A proposed framework might look like the following:

- a) All stablecoins issued to US users must be registered on an official list of “regulated stablecoins” under the oversight of one or more US regulatory department(s).
- b) The registration itself would be focused on transparency and reporting, on a notice filing basis, coupled with clear obligations on recordkeeping, reporting, and regular examination. The regulatory departments authorizing the program would have the ability to decertify registered stablecoins.
- c) The registration would involve publishing a daily Reserves List which details what the total net value of the stablecoin’s reserves are, and breaks that down into exact quantities of specific categories (e.g. “100 USD in Bank XYZ; \$95 of short-term US treasury bills; \$50 of Tier-1 commercial paper of US companies; \$30 of Tier-1+ commercial paper of European companies; \$10 of [other suitable assets as permitted by the regulation and by that stablecoin’s registration document]”)
- d) The registration would require that the issuer maintain “sufficient” reserves. This could be defined by a set of haircuts on various types of reserves. E.g., perhaps a 0.10% haircut on USD in an FDIC insured bank account; a 1% haircut on short-term US treasury bills; a 10% haircut on Tier-1+ commercial paper; a 15% discount on Tier-1 commercial paper; a 20% haircut on EUR, GBP, JPY, CHF, CAD, AUD, SGD, HKD, etc.; and a 50% haircut on bitcoin.
- e) The registration would require semi-annual audits by an accounting firm to confirm that the reserves are as represented.



f) The registration would require stablecoins to have clear and transparent redemption requirements (e.g. based on Know Your Customer documentation) and a clear customer complaint process if a redemption is denied.

g) To address financial crimes, all registered stablecoins would have to be on a public ledger, and the creation and redemption process must be sufficiently structured in order to ensure that stablecoins associated with illegal activity (as observed via on-chain surveillance and analytics tools, via a suite of standard blockchain surveillance software) cannot be redeemed.

As noted above, this is a basic strawman framework for how the key components of a potential stablecoin registration program might look. Each of these points are designed to preserve the usability of stablecoins while solving for regulatory considerations that need addressing. If designed in the right way, this framework could enhance the ultimate usability of stablecoins. We very much look forward to engaging with policymakers, regulators, and market participants on these concepts.

**Exhibit B**

FTX's Key Principles for Market Regulation of Crypto-Trading Platforms

In this piece we identify a series of ten principles (and in some instances, proposals) that should guide policy makers and regulators as they build the regulatory framework for spot and derivatives crypto markets. FTX does not propose specific legislation here but rather principles and proposals that could be reflected in policy making, whether in the form of legislation, rulemaking or other regulatory action. Many of these principles are familiar to traditional securities and derivatives markets, but some of the principles reflect market-structure choices made by FTX and other crypto-platform operators that we believe lead to superior outcomes for investors and, indeed, the public. FTX therefore believes public policy should not only permit these choices but promote those that lead to such outcomes. Some of the discussion here focuses on the U.S. marketplace but the principles and proposals are applicable in any jurisdiction globally. FTX appreciates being able to engage in this dialogue with policy makers and regulators, and we are always happy to pursue follow-up discussions with interested parties. See our prior policy blog posts at <https://www.ftxpolicy.com>.

1. Proposing One Primary Market Regulator with One Rule Book for Spot and Derivatives Listings

In the U.S. regulatory ecosystem, spot markets and derivatives markets are subject to different regulatory programs, and this can lead to inefficient and non-optimized market structures. In this post we propose as a solution an alternative regulatory approach that would provide market operators the ability to opt in to a unified regulatory regime for spot and derivatives marketplaces, through a primary regulator model.

As many know, the CFTC is the primary regulator of commodity derivatives marketplaces, while the SEC is the primary regulator of cash securities marketplaces, and the two agencies share oversight responsibility for certain aspects of security derivatives marketplaces.

In parallel, there is a further regulatory split for spot markets (sometimes called “cash markets” in the traditional commodities or securities context), where the applicable regulatory program depends on whether the product



being traded is categorized as a security (where the SEC regulates) or a commodity that is not a security (where the states largely regulate, via money transmitter or money services business licensing).

Against that backdrop, and particularly outside of the U.S., we observe that many crypto-native trading-market operators offer for trading both spot transactions on crypto assets as well as derivatives on those assets, under a unified rule book, one collateral and risk-margin program, and a single technology stack. This model is generally not found in the U.S. given the jurisdiction's historically fragmented approach to market regulation. Nonetheless, we believe that for traded crypto markets, the key principles for market regulation (customer and investor protection, market integrity, preventing financial crimes, and system safety and soundness) generally apply equally across spot and derivatives markets, and commodities and securities markets. That is, the regulatory label on a given product or market need not change the core goals of regulation, and the same rulesets should generally apply across all markets. For that reason, we strongly support offering a single unified regulatory program for crypto market operators.

Specifically, in jurisdictions where there is a primary derivatives-market regulator separate and distinct from a primary cash-markets regulator (such as in the U.S.), policy makers and regulators should seek to permit qualified crypto markets operators to run a single rule book, risk program, and technology stack, approved and overseen by a primary regulator (perhaps chosen by the marketplace on an opt-in basis and supported thereafter by inter-regulator cooperation and information sharing, with the possibility of the primary regulator shifting if the underlying product mix evolves in a certain way), that governs the listing and trading of both spot cash transactions in crypto assets as well as derivatives on crypto assets.

Much of this can be achieved today under existing statutory authority and with creativity and cooperation by and among market regulators. With some specific issues, however, clarity might be needed from legislation. Under the current U.S. paradigm, for example, we acknowledge that it is unlikely to be absolutely clear at any given moment, absent legislation, whether all of the crypto products listed on such a venue are definitively "within" or "without" the jurisdiction of either of the markets regulators. However, between two possible regulatory solutions under this paradigm - which are (1) that regulators can prohibit the marketplace altogether (via indecision, decree, or a combination of the two), or (2) that regulators can innovate and cooperate to ensure that key regulatory and policy goals are met in a clear and robust way while also permitting the marketplace to operate - we think the second approach offers a compelling option.

Said more explicitly, in jurisdictions where there are two mature market regulators, FTX proposes the permissibility and adoption of a reasonable and rigorous framework that would allow a crypto-markets platform operator to elect one market regulator as its primary regulator for a unified spot and derivatives trading book, subject to adherence to a cooperative framework in which the other market regulator acts a secondary regulator while maintaining appropriate visibility into the platform's operations, but not day-to-day supervisory responsibilities. (Indeed, a similar approach is used today when a market regulator from one jurisdiction "recognizes" the framework of a different jurisdiction where a primary, "home" regulator resides, and then defers to that primary regulator's regulations and rulesets so long as they are sufficiently comparable.)

We propose a functional-based approach, where the regulation and the trading venue rule books that comply with that regulation should be largely modeled after existing market regulations for securities and derivatives markets, on the basis that most jurisdictions will follow this same approach. FTX believes that there is a unique